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Veterinary Otology.*

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Diseases of the ear in animals are met with fairly frequently and many of them are often difficult to treat expeditiously or successfully. No class of malady demands so much patience and skill. The remedies are numerous, often worse than useless, and require great skill in their application. Skill is only obtained by long practice, and the agents used are to the surgeon what colours are to the artist.

Practitioners are artists and were termed artists before the nineteenth century. The word "surgeon" is only a corruption of "chirurgeon," which means a handworker. Even at the present time in Holland the surgeon is termed an "arts" and in Germany "ärzt." And art is synonymous with skill, which means obtaining the best results with the least expenditure of time, energy or money. This is necessary in veterinary otology, in which the diseases are often troublesome and require prolonged treatment even when not incurable, and the reward meagre and the expectations of the owner of the patient great. Veterinarians cannot afford solely to be specialists in this branch and we have not the resources of our confrères in human otology, whose fees are often very large, enabling them to devote the whole of their energy to their art.

I shall first of all deal with the cat, then the ferret, rabbit and bird, afterwards th dog, and finally the other animals.

Diseases of the Ear in the Cat.

Ninety-nine per cent. of the ear troubles in the cat are due to the presence of the ear mite—*Symbiotes auricularum*—in the external auditory canal.

These parasites are found in 90 per cent. of the long-haired varieties, 50 per cent. of the cross-breds, and not in 25 per cent. of the common or smooth-haired varieties. Many short-haired cats in constant contact with affected long-haired cats are exempt from their presence. This seems to show that there is some predisposition to their ravages.

These parasites are found in kittens as soon as their ear-holes are open and this goes to show how quickly these parasites crawl from the ears of the parent cat, from her neighbours, or from the surroundings, to the young. On inspecting the ears of these young immature creatures one often finds the auditory canal blocked with the parasites and their fæces.

A dirty appearance of the membrane lining the ear cavity is nearly, if not always, due to the presence of these parasites and the more or less abundant accumulation of their blackish or brownish fæces which sometimes completely fill the cavity. These accumulations are often of a hard consistence and cause a rattling sound when the cat shakes her head. These fæces have the odour of crushed black-beetles and when they are in a hard mass they produce abrasion of the lining membrane by friction when the animal shakes her ears.

In a good light, especially in warm weather, the parasites may be seen with the naked eye as small cinnamon-tinted woolly bodies moving about most actively in the darkened fæces or on the lining membrane of the ear cavity.

Scratching with the hind leg at the base of the inclined ear and shaking of the head and ears are frequently observed. Not infrequently during this process the animal utters a cry somewhat expressive of pleasure. If the ear is touched or manipulated the scratching of the base of the ear with the hind foot becomes rapidly exaggerated and seems to give the animal great enjoyment. It appears to be a kind of furor.

When the *débris*, composed of the parasites and their eggs in various stages of development and their fæces, is removed by means of an ear scoop or spud or the looped end of a hair pin the lining membrane of the external auditory canal shows a reddened, moistened or abraded appearance which is partly due to the chemical decomposition of the fæces and partly to the mechanical action of such masses of fæces when the animal shakes its head. It may, however, be associated with the irritation set up by the crawling movements of the parasites and the scratching action of the cat.

During distemper and other debilitating diseases these parasites multiply rapidly and set up an acute inflammation of the lining membrane with a more or less abundant discharge, which becomes very profuse in the pharyngeal form of distemper.

The complications or effects of this parasitic malady are many:—

1. Not infrequently there appears on the skin at the back of the root of each ear a coarse thickened *abrasion* from tha diameter of a shilling to that of a florin or more. This is due to the constant scratching of the region by the hind claws of the cat.

2. All cases of *hæmatoma* inside and sometimes also on the outside of the flap of one or both ears are due to this parasite. I have never yet seen this condition without the presence of the parasites. It is thought to be due to shaking or flapping of the ears, but I am not of this opinion. It is the result of reflex action bringing about rupture of the internal aural vein and sometimes, in conjunction with that of the external vein. Such hæmatomata, if left untreated or if treated unskilfully, always result in shrinkage and drawing down of the flap.

3. In many instances the scratch reflex becomes so exaggerated that convulsions of the reflex or Jacksonian type are induced. But such convulsions may also be seen when the parasitic disease has been removed, or when fleas or lice are present on the surface of the skin, or during the beginning of an outbreak of eczema, or when the

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animal commences to lick its loin, back or thighs; also when the skin is touched or tickled.

4. Exaggeration of the scratch reflex remains long after the parasitic disease is cured. The same may be said of the outpouring from the wax glands.

5. Ataxia, or lack of proper balancing of the body, with an inability to jump up on obstacles, often arises from the presence of parasites in the ear and may remain permanently after they have been removed.

In many instances the cat progresses in a straight line fairly well, but she shows wobbling of the head and of the trunk from one side to the other and cannot turn very easily without swaying of the hind quarters or falling over on her side.

4. Various forms of vertigo are also encountered from the presence of these parasites. There may be pivotting round of the body on the hind quarters, rolling over like a barrel or going in a circle. Labyrinthine vertigo may also be witnessed. Nystagmus is generally present. Treatment of the cause is usually followed by recovery in a very short period.

5. Epileptiform convulsions, especially in well-bred kittens during warm weather, are frequently encountered. The young animals suddenly give a piercing cry, rush about frantically and climb up the curtains or on to obstacles, and appear frightened. Sometimes there is falling down on the side, with general convulsions of the body and foaming at the mouth. Not rarely, it attacks several kittens in a litter and in some instances the whole litter succumbs to it.

Treatment of this malady is simple. After scooping out the dirt from the cavity with an ear scoop or the loop of a hair pin, a few drops of the iodine-carbolic-glycerin liniment, or of a liniment composed of oil of tar, oil of turpentine, æther and olive oil, are poured into the ear and allowed to fall to the bottom of the cavity, when the root of the ear is manipulated between thumb and forefinger a few times to work it into every crook and crevice and to loosen or dissolve any wax that might remain after the scooping. The superfluous material is then wiped away with a piece of cotton wool to prevent soiling of the pelage. During this process the flap of the ear is held between the thumb and finger of the left hand to prevent the animal shaking its head and distributing the super-abundance of dressing over the dresser, and over its pelage. The other ear is then treated likewise. This dressing is repeated every three or four days for a few times in order to kill any stragglers. After a week or two of this treatment the cavity of the ear may be treated with an absorbent dusting powder to prevent the hypersecretion of wax and to overcome the resulting catarrh.

Where more than one cat is kept, as in large catteries, all the animals should be treated simultaneously and the surroundings disinfested so as to prevent re-infestation after a cure. There is no doubt that breeding of a large number of cats in artificial surroundings accounts for the spread and prevalence of this malady.

This infestation is transferable to the dog; at least, I have frequently observed the disease to be present in cats and dogs in the same house.

The interior of the external auditory cavity of a healthy cat, or one free from this parasitic invasion, is glistening, moist, pale, and perfectly clean, and when the ear is touched or manipulated no scratch-reflex is induced.

There are other diseases of the middle and internal ears not due to *symbiotes auricularum*. But they are either not frequent, or are very rare. One is an otorrhœa set up by the presence of a mould, such as the *Aspergillus fumigatus* or *Mucor verticillum*. It is evidenced by a whitish, milky, or greenish discharge in which the fungi may be detected by microscopical examination. This may be overcome by instillation of a 5% spirituous solution of creosote for a few times and by subsequent insufflation of salicylic acid and kaolin into the ear cavities.

Bilateral otorrhœa, with a yellowish-whitish mucoid discharge arising from the depth of the ear cavity (probably from the internal ear) in aged cats, is difficult to bring to a successful issue in spite of any classical treatment such as the instillation of liquor plumbi subacetatis, tincture of iodine, spirituous solution of creosote, or the insufflations of oxide of zinc, salicylic acid or glutol. The same may be said for that otorrhœa due to tuberculosis of the inner ear or to mastoid suppuration.

The otorrhœa of young cats associated with the pharyngeal form of distemper and involving the Eustachian tube, inner and middle ear of both sides, or that due to tuberculosis of the inner ear, is either very troublesome or incurable. The discharges are albuminous and sticky, and may be tinged with blood.

The *fleshy polypoid tumour* that sometimes springs from the internal lining of the ear cavity in aged cats may be removed, but it always recurs—at least, that has been my experience.

The external surface of the ear flap is sometimes the seat of tuberculoma, sarcoma and carcinoma or other malignant growth. Although they may be removed with a portion of the healthy surrounding tissue, they usually recur.

The edge and surfaces of the ear flap are often affected with sarcoptic or notœdric scabies or ringworm, grey or yellow, and the ear cavity offers a hiding place for the demodex and forage mites, harvest bug and the avian red mite. Fleas, lice and ticks occasionally are found on the hairy covering of the ears.

The notœdric scabies usually shows the first signs of its inroads on the root of the anterior edge of the flap, from whence it gradually spreads to other parts of the head and eventually to the neck.

Diseases of the Ear in the Ferret.

The *ferret* is affected with the parasitic otitis which produces similar effects to those of the cat ear mange. If left untreated it leads to ulceration of the internal ear and ultimately to death by coma. The parasite *Symbiotes auricularum* var. *furonis* is similar to, if not identical with, that of the cat and the dog.

Diseases of the Ear in the Rabbit.

Rabbits are frequently attacked with a parasitic otitis due to *Psoroptes communis* var. *cuniculi* (*Synonyms: Psoroptes cuniculi, Psoroptes longirostris* var. *cuniculi, Dermatocoptes cuniculi, Dermatodectes cuniculi*). It spreads rapidly in a rabbitry, either by direct or indirect contagion, and young rabbits, like kittens or puppies, are not long with

their affected parents before their ears become infested and it is not weeks before they succumb without showing many lesions in their ears. In older or adult rabbits the auditory cavity becomes filled with yellowish crusts, which set up a more or less acute inflammation of the internal lining membrane and other signs of otitis. As in the dog, cat and ferret, disturbance of the nervous system is often witnessed, such as meningitis, ataxia, paraplegia, epileptiform convulsions, ataxia and labyrinthine or other forms of vertigo, without any lesions in the deeper ear being observed.

Removal of the crusts and disinfestation of the ear cavity are often followed by disappearance of the nervous symptoms. The cheapest ear liniment for the rabbit is one composed of oil of turpentine and pure carbolic acid in rape or sperm oil. The hutches and sheds should be thoroughly disinfested in order to prevent re-infestation.

Forage or meal mites, the harvest bug, the avian red mite, the sarcoptic and demodectic and other mites are sometimes found as temporary residents in the ear cavity.

The external and even the internal surface of the ear flap is sometimes attacked with ringworm, and sarcoptic and follicular scabies.

The sarcoptic parasites of the rabbit are *Sarcoptes squamiferus* (*Synonyms*: *Sarcoptes praecox*, *Sarcoptes scabei* var. *cuniculi*) and *Sarcoptic praecox*.

Dermatoryctes mutans (*Synonyms*: *Cnemidocoptes mutans*, *Sarcoptes mutans*), the cause of scaly leg or beak of birds, sometimes attack the ears of the rabbit.

Diseases of the Ear in Birds.

Poultry, pigeons and various cage birds, such as the canary, bullfinch, budgerigar and other parakeets or parrots, often suffer from labyrinthine vertigo. It usually shows itself in various forms of torticollis or twisting of the head on the neck or swaying of the head from side to side. The semi-circular canals of the internal ear show a knotted appearance, whereas these tubes in a normal state are quite smooth or even. These knottings are due to the endolymph in the semi-circular canals forming itself into yellow, cheesy coils which push out the wall of the canals and give them a knotted appearance. They are the result of a more or less acute inflammation of specific origin, and in the pigeon, in which the disease is very common, they give rise to the malady termed among pigeon-fanciers "megrims." The cheesy lymph, when collected from the semi-circular canals of the internal ear of affected pigeons and rubbed up with saline solution and injected into the thickness of the beak of young pigeons or painted on the scarified surface in front of the foot, just below the hock, gives rise to typical pigeon pox or diphtheria within four or five days. In experimental birds it rarely, if ever, reproduces the torticollis, but every localization—cutaneous, ocular, nasal, buccal, pharyngeal, œsophageal or other form—may be produced (Lahaye).

Recovery from the clinical symptoms of this torticollis is often obtained by injecting into ear cavity a few drops of 10 per cent. of oil of eucalyptus in olive oil, or of the iodine-carbolic-glycerin liniment, every two or few days. The best instrument for the purpose of injecting either remedy into the ears is a small vacuum or press oil can furnished at its free point with a piece of fine rubber tubing. Parasites or mites often seek refuge in the ear cavities aud set up disturbance of the equilibrium.

Diseases of the Ear in the Dog.

The *dog* is affected with many ear complaints arising from various causes.

Not infrequently at the onset or during the course of distemper, especially in puppies, the inner surface of the flap and lining membrane of the external auditory cavity are affected with the *varioloid eruption* which, when it bursts, gives rise to abrasions from which a sticky serous or purulent discharge issues. If this eruption is neglected or is treated with irritants, more or less ulceration takes place and prolongs the course of the malady. If treated with a bland or mild absorbent powder, such as oxide of zinc or kaolin, it soon disappears. On the other hand, if treated with irritants, a profuse fœtid discharge and general inflammation of the membrane lining the ear cavity arise and creates pain and suffering.

Acute inflammation of the external auditory cavity is occasioned by irritating soap or dirty water, especially that of some rivers or ponds, getting into the ear. This creates irritation, which is aggravated by the animal shaking the ears, and thus an external otitis of a more acute nature, with muco-purulent discharge, is set up. Hypersecretion of wax may appear and this, when it undergoes decomposition, adds to the already inflamed condition of the organ. (Let it be mentioned here that inflammation of the external cavity resembles in many respects grease in the horse; only, in place of the sebaceous glands in the skin of the horse's heel, we have in the dog's ear modified sebaceous glands in the form of the ceruminous glands, which, when irritated, pour forth a superabundance of wax. If the irritation is continued over a great period we get grapey or verrucose or papillomatous outgrowths from the membrane.)

When there is much shaking of the head or flapping of the ears the ridges or folds inside the ear are liable to become abraded or even ulcerated to a more or less extent. If the trouble is promptly dealt with by the application of some soothing absorbent powder, such as oxide of zinc or a mixture of kaolin, starch or boracic or salicylic acid, the inflammatory process is checked and the discharge stopped. After the inflammation has disappeared the ear should be treated antiseptically with the iodine-carbolic-glycerin liniment and renewed every three or four days until the ear has regained its normal state.

But in general practice most of the cases of ear trouble we get to treat are only brought to us when the disease has gone from bad to worse by neglect or by amateur treatment with some quack remedy.

Subacute and *chronic inflammation*, or catarrh of the external cavity, may be set up by eczema, erythema, a superabundance and accumulation of wax, mites, irritating skin remedies getting into the ear, purulent discharges from wounds of the flap falling into the cavity, foreign bodies (as hay seeds or grass awns) working down the cavity, or from discharges arising from the internal or middle ear, such as in cases of tuberculosis, pharyngitis or other troubles, by extension. Although it generally attacks both ears, one side usually seems worse affected than the other and causes the animal to hang its head or incline its ear on the worse side. It is aggravated by the

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constant flapping of the ears, by irritating solutions, or by frequent puddling the ear to clean it out or to push the discharge further down the cavity. Discharges or exudates, by undergoing decomposition, keep up the irritation. Washing out the ears with water or soapy water adds to the trouble.

When there is any discharge, this may be abated by repeated insufflations of absorbent powders, such as kaolin, boracic acid or salicylic acid and starch, or glutol—which has not only a desiccant but also a cicatrizing action, as well as being a powerful antiseptic without any irritating effect. The powder should reach towards the drum and this may be effected by manipulating the root of the ear between thumb and forefinger. The discharge often originates from the drum or lower part of the cavity, to be forced upwards to irritate the lining membrane higher up the cavity. This treatment should be continued until all discharge has been stopped and the inflammation checked, when the cavity may have instilled into it a few drops of the iodine-carbolic-glycerin liniment, which should be repeated every three or four days. This liniment has not only a sedative, but also an antiseptic effect in any irritation of the cavity.

If the internal membrane remains thickened and rough, pure tincture of iodine, without any iodide of potassium, poured into the ear every three or four days, has a remarkably resolvent effect.

During the course of distemper the ear is affected with a more or less subacute catarrh or otitis, to the extent of one-third of the cases. Lange and also Cadiot put it as high as 50 per cent.

Dogs, living, as they mostly do, on unnatural or starchy food, should be given raw meat and a small quantity of crude cod liver oil. Subcutaneous injections of cacodylate of soda are useful.

Eczema of the inner lining of the flap and also of the cavity is very common in sporting dogs denied raw meat or bones. It may be associated with eczema affecting the eyelids or feet, and when affecting the eyelids it is usually associated with vascular keratitis, mostly in both eyes. There are generally a profuse, thin, greasy, offensive discharge and abraded eruptions. It may run a very prolonged course and is usually rebellious to the treatment generally adopted. It is, however, readily overcome by submitting the animal to an absolutely raw meat dietary, coupled with crude cod liver oil and the frequent application of dry dressing, carried out in a methodical manner.

I have seen such cases, said to have been under treatment for months or even years, respond in a very short time. Subcutaneous injections of cacodylate of sodium are useful in this and other chronic ear maladies and also in eczema and follicular scabies.

Verrucose otitis, or grapey, warty or papillomatous enlargements on the inside lining of the external auditory canal, are no doubt the outcome of a chronic inflammation kept up by irritating dressings or by neglected treatment of a subacute otitis. It always affects both ears and I think there is in some dogs a predisposition to it. Although the cauliflower excrescences are moist, there is very little discharge beyond a little wax. These excrescences are so numerous that they generally fill up the space in the external cavity. When the ear is manipulated there is some reflex irritation, shown by the animal attempting to scratch the manipulated side.

If caught early it may be checked and overcome by the instillition of tincture of iodine every third or fourth day. Dry dressings with zinc oxide, salicylic acid, glutol, starch or boracic acid are of no value, nor are liquids, such as liquor plumbi subacetatis, weak solutions of zinc chloride or pure carbolic acid.

If the disease does not respond to the tincture of iodine treatment within six months, recourse should be had to a careful application of a 10 per cent. solution of chloride of zinc repeated when thought advisable. An undiluted solution of chloride of zinc B.P. or Burnett's fluid is a sure but drastic cure. In human otology recourse is sometimes had to chromic acid applied to the excrescences by means of a glass rod. Chromic acid has a great affinity for moisture. Some recommend excision and cauterisation of the resulting wounds with solid nitrate of silver, but this is a treatment I would not recommend. The electric cautery has its votaries. I have had successful results with the tincture of iodine applications within six months in cases that had hitherto been elsewhere under treatment for periods extending up to one and even over two years. Should the growths have undergone cartilaginous changes, I know of no treatment that would resolve such. I have never adopted the fashionable violet ray treatment, nor treatment by radium.

I have never seen any recurrence of this malady, which requires great patience and perseverance if it is to be treated successfully.

Auricular acariasis or parasitic otitis. Although the ears of dogs, especially sporting dogs or those kept in large kennels, are frequently infested with the ear mite *Symbiotes auricularum*, they are not subject to it to the same extent as is the cat, nor is their presence so often easily detected in the dog's ear as in that of the cat or even of the ferret. It may be present when the internal cavity is absolutely normal in appearance. Even when there is seen more wax in the cavity than normal, the parasites are not so readily detected as some might imagine. Only a week ago I had a black Cocker Spaniel puppy brought to me with irritation of the ears, which he manifested by constant shaking of his head, scratching his ears and rubbing them on the carpet. The ear reflex was present and there was a great quantity of softened wax at the bottom of the cavity, so far as I could see. After scooping this out as well as I could, I had to make and examine twenty slides before I could detect one parasite under the microscope. I had no doubt that the parasites were deep down the cavity, towards the drum, and out of the reach of my scoop. I treated the ears with the iodine-carbolic-glycerin liniment, which soon put a stop to the irritation, and shall continue to do so every three or four times until I am certain that I have completely disinfested the ears.

These parasites, during warm weather, become active and crawl all over the internal lining membrane of the ear cavity. When the weather is cold they, like all other species of mites, seek warmth in the deeper structures of the surface of the body. They live on the wax and by their stimulating wanderings or movements excite the ceruminous glands to pour out a greater quantity for their

future needs. In return, they excrete a great quantity of fæces. These undergo decomposition which, with the mechanical action of the excreta, irritates the lining membrane.

During hot weather, when the interior of the cavity is exposed to a good light, one may see the mites crawling about the lining membrane, but there is not that quantity of dirt that is seen in the cat. But, as said before, in spite of the fact that these parasites may be present, nothing abnormal may be observed. This has been pointed out by Nocard, Cadiot and Railliet, who had worked on this subject independently of one another. In the hot months of the year these parasites become very active and crawl from animal to animal, as well as infest their surroundings. Guzzoni's and Nocard's experiments show that the infestation is rapid and, as I have already pointed out in the cat, kittens' ears become abundantly infested as soon as their ear-holes are open. The infestation takes place from the dam in less than a fortnight. Nocard's transmission experiments showed that there was rapid multiplication of the mites within a month.

The presence of these parasites in the ears of dogs, especially in confined dogs, when allowed out, particularly in bright weather, for exercise (which they usually take vigorously) is liable to set up various forms of nervous disorder, as well as some irritation or catarrhal inflammation of the ear. The reason it attacks kennels of dogs more than isolated animals is that the chances of transmission increase in the proportion to the number and they do not receive such early treatment as a single house dog that is always under the eye of its master or mistress, who is generally observant of the least thing amiss with his or her animal and usually seeks professional advice and treatment without delay.

Professor Guzzoni, of Milan, in 1876 made a communication to the Accademia Fisio-Medico-Statistica on the auricular acariasis of the domestic animals. In it he pointed out that the presence of these acari did not determine a true inflammation of the external auditory cavity, but nevertheless gave rise to epileptiform symptoms. Mégnin (1878, 1881 and 1882) made similar observations. These observations were confirmed by Professor Nocard (in 1882) who had made numerous observations and carried out several transmission experiments.

Although the hysterical attacks are observed generally during the excitement of violent exercise, cases may be observed when the animal is resting in its kennel. Nocard's hypothesis of these epileptiform seizures of the reflex order was that the sudden appearance of the attack during the excitement of the chase was due to the fact that the temperature of the body was increased, so that the movements of the acari became so active that they increased the excitability of the already excited nervous system of the affected subjects. Railliet's (1888) observations show that there may not be any true inflammation of the region, nor ulcerations, crusts, discharge nor bad odour. Nor do the middle nor the internal ear show any alteration or disturbance. My observations are in accordance with those of the above-mentioned authorities.

Railliet and Cadiot, in 1892, recorded that they produced experimentally in the dog and cat epileptiform convulsions, of auricular origin, with these parasites, independently of a direct stimulation of the sensory nerves of the ear, as the internal and even the middle ear may remain unaltered (Neumann).

All dogs seized with these maniacal, hysterical or frightened attacks do not develop convulsions, nor foam at the mouth. Far from it. Some dogs only show an occasional, isolated, peculiar shriek or howl which may be repeated at rather long intervals, especially at night time, as if they were being hurt. Removal of the cause removes the effect. Some practitioners in this country deny that these parasites are the exciting cause of the prevailing epizoötic of hysteria. They are inclined to view the cause as a virus-infection and assert that there are histological changes discovered in the brain. They bring forward no evidence, let alone proof, to substantiate their view of it being due to a virus, and as to the histological changes found in the brain, one would expect such after a dog has succumbed to repeated attacks of epileptiform convulsions set up by acari in the ear. They are the repercussion effects of the remote or surface cause, just as a blister on the chest has its repercussion effects on the lungs in pneumonia, pleurisy or other deep-seated organic changes.

Others assert that they are not the cause because so many cats and dogs have these parasites present in the ear and do not show nervous discharge. Well, all cases of distemper do not show nervous disturbance, even as all influenza patients do not develop pneumonia; or as all syphilitics do not develop remote nervous symptoms. The effects are in proportion to the secondary causes. Again, all rabbits or other animals having coccidia in their system do not show pronounced clinical symptoms, although many succumb to them and many before they die manifest epileptiform convulsions or paraplegia. People with heart disease may live a long time if they take life easily, but if they bustle about or get over-excited they often succumb quite suddenly.

Some people have gangrene of the skin and other tissues of the limbs, due to disturbance of the nervous system or of the mind. Peripheral irritation causes disturbance of the nervous system. Some give a hypodermic injection of morphine to blunt the irritability of the central nervous system, whilst others remove the peripheral irritation by local anæsthetics or other means. Repeated peripheral irritation sets up changes in the nervous system.

To prevent nervous attacks set up by the presence of mites in the ear, one must destroy the mites and thus remove the cause. All dogs and even cats in a kennel affected with these ear mites should be treated simultaneously and the surroundings disinfested to prevent re-infestation. The parasites are readily destroyed by a solution of sulphurated potassium, a spirituous solution of creosote, carbolised oil, iodised glycerin, iodine-carbolic-glycerin liniment, or Nocard's liniment—composed of ether, naphthol and olive oil. Ether is the best solvent of the wax, but its drawback is its rapid evaporation.

As in the cat, so in the dog during distemper, these parasites become most prolific in the ears and they are probably the cause of some cases of nervous disturbance. Whether the hysterical attacks in puppies under six months that have always so frequently been observed when they become excited when let, or taken, out for exercise, especially during bright days, are due to the same

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cause as that now seen in adult dogs, I am not prepared to say. Frequently such attacks recurred, but never after they reached the age of six or seven months.

Mycosis of the external ear cavity or Otomycosis is occasionally seen in all species. It may be due to various species of aspergillus. It sets up a catarrh the discharge of which is at first serous and afterwards becomes seropurulent with irritation and shaking of the ears. In the external auditory meatus blackish or greenish spots of mould may be observed. *Treatment* is that for ordinary catarrhal otitis.

Labyrinthine vertigo is occasionally witnessed in the dog and may be due to tuberculosis of the middle ear and associated with *perlsucht* of the cerebral meninges. Diagnosis is made with tuberculin and confirmed by *post-mortem*. The dog constantly holds its head in the position as illustrated in a case of luxation of the cervical vertebræ in Hobday's *Canine Surgery*, Fig. 121 (*vide* article on Tuberculosis in the *Veterinary Journal*, 1925, May, pp. 228-249. It is also mentioned on pp. 528-529 in Nicolas's *Veterinary Ophthalmology*.).

Ulceration of the inside of the flap of the ear is seen not only in dogs with long pendulous ears, but also in those that have upright or short, drooping ears. It is, however, more frequently noticed in long-eared dogs, no doubt in consequence of the constant flapping of the ears, which keeps up or aggravates the ulcerative process. It usually attacks both ears. It is mainly a disease of malnutrition, coupled with irritation deeper down in the external auditory cavity.

Wounds on the ears of healthy dogs rapidly heal even without any treatment and in spite of the fact they often flap the damaged ears.

Treatment consists in allaying the irritation in the deeper parts of the ear and applying the ear net or hood to prevent flapping of them and, above all, to submit the animal to a purely raw meat dietary coupled with a small quantity of crude cod liver oil. Lead plaster, smeared on soft leather cut in the shape of the free end of the ear, when applied to the ulcerated ear often gives good results, but it may have to be renewed as soon as it becomes loose. It should be applied to both surfaces and may be kept in a more secure position by winding round it in a transverse direction a narrow strip of adhesive plaster. The perforated aluminium ear clamp answers very well in most cases, but care should be taken not to compress the flap too much between the plates or blades, otherwise strangulation of the circulation may arise and necrosis set in.

Haematoma auris or the cystic formation on the flap of the ear, is encountered not only in long-eared but also in upright and short-eared dogs and more especially in the cat. It may attack one or both ears at the same time and although it is usually found on the inside of the flap it may also be seen on the outside at the same time.

It is much more frequently seen in the short-eared cat than in any class of dog and is, in them, always associated with *Symbiotes auricularum* in the ear cavity. Experimentally it can be induced in the rabbit by applying the galvanic current to the auricular nerve. In man it is mostly seen in lunatics, and in consequence it is popularly termed lunatic's ear. It is occasionally met with in the horse, ox and other domestic animals provided with external ears.

It is commonly imagined to be due to flapping or direct injuries, such as blows. If that were so, one would expect to see it more in the long-eared dog than the short-eared cat. It is due to rupture of the auricular vein between the cartilage and perichondrium or membrane covering the cartilage. Before this cystic formation is opened disinfection or disinfestation of the ear cavities should be carried out in order to remove the cause or associated condition.

In long-eared dogs all that is necessary for its successful treatment is the excision of a small triangular piece of skin covering the most dependent part of the bulging cyst and squeezing out the retained fibrinous strings or clot. Daily compression of the flap between the fingers should be practised to prevent refilling or closing up of the sac and to bring about adhesion of the perichondrium to the cartilage. There is no need to probe, introduce forceps, irrigate or inject—perhaps only to introduce infection aud set up a suppurative inflammation. There is no need for the ear-clamp or such like means of compression; there is no necessity to make a big job out of a little one.

With the *cat*, however, treatment is much more difficult to obtain good results without the shrinking of the ear and its being drawn down. On no account must any skin be excised, but the cyst should be opened its whole length and the clot removed, and the ear clamp devised by me or re-edited by Mr. Hamilton Kirk, should be applied so as to maintain the approximation of the loosened perichondrium to the cartilage and thus prevent the subsequent refilling of the cyst, and shrinking and drawing down of the organ, and a consequent permanent deformity. The most difficult cases in which to get good results from pressure are those where the cyst extends deep down the ear.

In lieu of an ear clamp, two pieces of thin aluminium or tin sheets or blades cut in the form of the ear flap and perforated for silver or iron wire to pass through may be used to maintain pressure. The holes in one plate should be exactly opposite those in the other. The cavity of the cyst should not be washed out or injected with irritating liquids to set up acute inflammation or perhaps to introduce germs of suppuration.

The external ear of the dog is often affected with dry seborrhœa, sarcoptic, notœdric or follicular scabies, ringworm, eczema, various new growths (especially granulomata in puppies), lice, ticks or harvest bugs.

Split ears from bites or ulceration of the flap are frequently encountered. They may be effaced by three rows of silk sutures, one right through the thickness of the ear and the other two through the skin of both sides. Lead plaster on leather may be applied on both sides to assist in maintaining the edges in approximation and the earcap or hood to prevent flapping. The operation may be done quite bloodlessly and painlessly by injecting a solution of cocaine hydrochloride and adrenalin right across both sides of the ear, but some distance below the wound.

Bleeding ears from bites or other wounds should not be washed to remove away the blood to set or keep up the flow, but left alone for the blood to clot and form a natural plaster or hæmostatic. If one wants to do something, an injection of adrenalin may be made a little way below the wound.

The edge of the ear is a common situation for the mites of sarcoptic or notœdric mange to occupy, even when the

rest of the body has been dressed for the disease. If one scratches the edge of the ears in either form of scabies one obtains the characteristic scratch-reflex. In this disease the edge of the ears should never be overlooked, otherwise numerous recurrences of it, extending in some instances over several years, will be encountered, the malady being eventually put down "to something in the blood." For this situation mercurial ointment, which is a good discutient as well as one of the best anti-parasiticides, should be thoroughly applied.

Paralysis of one or both ears is sometimes encountered in the dog, but more frequently in the horse and rarely in other animals. It is due either to injury of the nerves supplying them with motor force, or to disease of their centres in the brain. It may disappear spontaneously, or after blistering the base of the ear and internal administration of iodide of potassium. The application of electricity may be tried as a last resource. Many cases are, however, incurable from the beginning.

Irregular Carriage of the Ears. — In some dogs, especially in puppies, one or both ears do not rise or fall as is wished aud as the appearance of the animal is not liked by the owner he consults his veterinary surgeon. This condition usually disappears in puppies by the time they reach the age of six or seven months. If it does not and the "deformity" remains permanently, recourse may be had to subcutaneous myotomy or tenotomy or to neurectomy. Many fanciers frequently weight the offending ear or put it into a stiff plaster. Others apply Hinde's Curlers or similar appliances. A good cure is to let the young animal have as much freedom as possible. There is no harm done by letting him wear an ear net or hood or by frequently performing massage. Undue stretching of the ear is occasionally adopted.

Jacksonian Epilepsy, or one of the forms of the reflex epilepsy of Brown-Sequard, is frequently seen in the cat, but is rare in the dog. It arises from some external irritation of the body, but mainly from ear parasites, fleas, lice, eczema, etc. It may, however, continue long after these sources of irritation have been removed. It is seen mostly when the animal turns to lick or bite its back, loin or thigh or when the back or ears are tickled or scratched. The convulsive movements start in the hinder parts and extend towards the head, when they commence to abate, generally without the animal losing consciousness.

After repeated attacks there may be brain symptoms, such as paralysis of all four limbs, difficulty of holding up the head, dilatation of the pupils (which contract sluggishly to the light), paralysis of the lower jaw, etc. These may gradually disappear, but ataxia, aud especially paralysis of the lower jaw, are the last to remain. Such, however, may remain permanently. In one cat the convulsions appeared every time she attempted to lick the flank, on which there was no evidence of lesions. These convulsions are considered by Jackson and his followers to be due to irritation of the motor area of the cerebral cortex. They differ from the convulsions of ordinary epilepsy by constantly starting locally, being limited in extent, and having a tendency to spread gradually without loss of consciousness, at least during the earlier attacks, or until one side of the body is involved, and the attack lasts some time. Usually the attacks last not more than a minute or two.

Deafness.

In all animals with wall or blue eyes, congenital deafness is the rule rather than the exception. If only one eye is blue and the other has the normal colour, the deafness is unilateral and on the side of the blue eye. But some blue-eyed white cats from a black strain may not be deaf, nor are Siamese cats, which have always blue eyes with a more or less pink reflex. True albino animals, such as the Pekingese dog, the Angora rabbit, the ferret, the white rat and the late State Hanoverian cream horses with pink eyes, a colourless nose or muzzle, are rarely deaf. On the other hand, white dogs, such as the Bull-terrier, although they may have brown eyes and a black muzzle, are often deaf. A wall-eyed condition, such as is found commonly in Harlequin Great Danes and often in Bull-terriers is generally accompanied by deafness. On the contrary, deafness is rarely observed in wall-eyed horses.

Congenital deafness may arise from non-obliteration of the fold of skin found in new-born puppies, and kittens whose ears should open after they have reached the age of nine or ten days. In other cases where inbreeding is carried out over many generations, deafness arises from non-separation of the chain of ossicles, which remain ankylosed.

In congenitally-deaf cats, the membranous labyrinth is sometimes found collapsed, the special nerve endings degenerated, and there is a total absence of pigment in the labyrinth, whilst in other instances no such changes are found.

Acquired Deafness.—This is frequently observed in very aged animals, especially in the dog and cat. It may arise from diseases of the inner and middle ear, which may proceed from pharyngitis, catarrh of the Eustachian tube, tuberculosis, distemper, strangles, auricular catarrh and tumours in the deeper parts of the ear. In birds, it often arises from chronic inflammation of the semi-circular canals set up by avian pox-virus.

In man, deafness often follows the prolonged use of large doses of certain drugs, such as quinine.

The Diseases of the Ear in the Horse, Mule and Ass.

They are very much rarer in equines than they are in the cat and dog. I have already mentioned *paralysis* or *drooping* of the ear resulting from paralysis of the auricular nerve, or appearing as a symptom of facial paralysis. This is fairly frequent. Warts often appear on the ears of young horses in the country. They are contagious and may be removed by excision or by the careful application of powdered arsenic or arsenic in the form of an ointment or paste. Sarcomata, carcinomata and other malignant tumours may arise inside the external auditory meatus. They may be removed, at least temporarily, by the local application of arsenic. Hæmatomata, sebaceous cysts, and especially dentigerous cysts, may involve this organ. Occasionally a strangles abscess or suppuration invades the cavity and gives rise to a more or less profuse purulent discharge. It may lead to meningo-encephalitis by extension from the middle ear, which is sometimes invaded by extension from the Eustachian tube or guttural pouch.

The external auditory meatus is not infrequently the seat of the parasitic mite *Psoroptes hippotis*. Like the

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symbiotes auricularum of the cat and dog, it sets up irritation and an increased flow of wax and later on desquamation of the lining membrane of the cavity. Some animals frequently shake their ears or head, and others scratch the base of the ear with the hind foot, producing in some instances excoriation of the skin and loss of hair, just in the same manner that some cats do.

I have often noticed that horses that shake their ears in harness, as if the hairs of the forelock were tickling the inside of the ear, manifest, later on, "megrims," which in some instances recur at intervals of various lengths and become not infrequently of the furious or bolting type, just in a similar manner to that of dogs seized with hysterical attacks. It is seen mostly in irregularly worked carriage horses. After a prolonged study of the action of ear parasites in the various species, I have no doubt that "megrims" in the horse are due to its particular species of ear psoropt, and I think in all cases of "megrims" treatment of the ears should be adopted.

Various wounds involve the ear. Torn or slit ears that have been neglected may be remedied by an autoplastic operation, even years after the tears or slits have been in existence.

During the hot months of the year various species of flies or other insects invade the cavity of the ears and torment the animals. These may be kept away by smearing the ears with a weak mixture of oil of tar and vaseline.

Ringworm and scabies may attack the external surface of the ear.

Diseases of the Ear in the Ox.

The ear of the *ox* is not troubled with many affections. The commonest is ringworm in calves and young cattle. It occurs mostly in winter when they are housed, but disappears when they are turned out in the spring to graze. Is it the grass or the sunlight that brings about its disappearance ?

Scabies, lice and pityriasis may also involve the external surface of the organ. Tuberculosis and actinomycosis sometimes attack the middle and inner ear. Various insects and mites invade the ear not as parasites, but for temporary shelter.

In the *sheep* the external auditory meatus is invaded by a special mite, *Psoroptes caprae* var. *ovis*, which is a different parasite from *Psoroptes ovis*, the cause of scab. It gives rise to irritation.

The *goat* is also affected with an ear mite, *Psoroptes caprae*, which sometimes produces great irritation and, in consequence, a serous or sero-purulent discharge from the external auditory meatus.

Young *pigs* sometimes manifest a purulent otitis due to *Bacillus pyogenes suis*, which sometimes accompanies swine fever. Tuberculosis not infrequently involves the inner ear.

Discussion.

The President (Professor James Macqueen): You have heard a very exhaustive paper on diseases of the ear. I do not know how it affects you, but it strikes me that the success of the veterinary surgeon may be accounted for after listening to this address. The difficulties of practice are not difficult to realise now, because of the many ailments of the ear. Now, gentlemen, on with the discussion, please.

Mr. James Rowe: I am very much indebted to Mr. Gray for elucidating some of the problems which have puzzled me for the last sixty years or so. (Laughter.) I began practice in '65 and I had an astonishing number of cases in cats, chiefly white cats—so much so, that I began to regard white cats as inordinately deaf. They generally had blue eyes, I remember. In those days I adopted the injection of pure glycerine, afterwards adding a little pure chloride of zinc.

I regret to say that I never submitted my specimens of wax and discharges from the ear to microscopic examination, as I should have done, and therefore I missed a valuable aid to diagnosis. I am inclined to think that some of the dressings given by Mr. Gray are too irritant. I do not believe in applying powders of any description or water in any combination, but emollients, and, being ambidextrous, I employ the following method: I clean the ear out and then, using a cyclist's oil can—a celluloid one, so that I can see how much I am putting in—I inject tincture of hydrastis canadensis mixed with four parts of olive oil and one of glycerine. I make a fairly firm pad of stout linen and, raising the ear with one hand, I scoop out the debris from the ear with the pad in the shape of a funnel; then I give the injection, which is an emollient, not an irritant, one. One hint I would like to give you, to gain the confidence of the cat, and more especially of the dog, dress the sound ear first, when the animal will frequently allow you to touch the other.

Being very keen on anatomy, I dissected many a skull of the horse, dog, cat, rabbit and squirrel, which gave me valuable opportunities of examining the ear in health and in disease.

In conclusion, I may mention that the dog has a peculiar penchant for collaring the rag with which you dress his ear and swallowing it. I use blunt-pointed scissors and always trim the hair out as much as I possibly can.

Professor G. H. Wooldridge: I have been very interested to hear Mr. Gray's description of these various cases, I think we owe him a debt of gratitude. (Applause). His paper is one which we shall be able to appreciate at its real value more fully when we have an opportunity of perusing it at leisure in the columns of the *Record*.

With regard to some of the dressings he has used, I would like to mention that, amongst the dry dressings he has employed, a number of them include insoluble powders, and in my experience that is rather a disadvantage, beacuse they have a tendency to cake in the ear, which renders subsequent cleaning and dressing a matter of some difficulty. For that reason, I prefer as a basis to use boracic acid, which is soluble and can therefore more easily be removed. A dry dressing I often employ is tannoform and boracic acid, in the proportion of 1—8. I notice that Mr. Gray uses salicylic acid with kaolin, and I would like to know in what strength, as salicylic acid may be rather irritant. I would also like to know in what proportions he employs iodine, carbolic acid and glycerine, for I can imagine, if it is used in too strong concentration and too frequently, that it may be much too irritant.

Mr. Gray has referred on a number of occasions to the work of Nocard, and that reminds me that Nocard himself recommended a dressing I have found the most useful in acariasis, and that is a solution of beta naphthol (one part), methylated æther (three parts) and olive oil (10 parts) The addition of some liquid extract of belladonna reduces the irritation and also checks the secretion of the ceruminous glands.

Mr. Gray also recommended, in certain conditions, the use of mercurial ointment in cat's ears.

Mr. Gray: No, in dog's ears. I have no objection to its use in the dog, but I was going to suggest that I should be afraid to use it in cats.

Mr. Gray emphasised the importance of ear canker in rabbits and mentioned the not too well-known fact that it frequently proves fatal. I think the condition would not be recognised as being due to the parasites, because of the peculiar exfoliation of the epithelium of the ear in scrolls. It is very easily treated when once it is recognised, if it is taken in time, but that is not often the case.

Mr. J. C. COLEMAN: I wish to express the pleasure afforded me by having had the opportunity of listening to this comprehensive and instructive paper from Mr. Gray.

My chief interest is in regard to the treatments he recommends. I think that many of them are of rather an irritant nature. Many years ago, Professor Wooldridge, at my request, gave me the very prescription he has quoted this evening, but about which Mr. Gray has made no remark. It was, as you will remember, betanaphthol, æther and olive oil, but in addition I thoroughly cleanse the ear with surgical ætherial soap, removing same with cotton wool afterwards. I have adopted that treatment in all the cases I have had since I was given the prescription, and I have had very few cases that have not responded. I have had, however, one or two cases where the deeper structures have become involved, and I have traced the disease where it has gone so far as to cause caries of the bone and has ultimately caused brain symptoms. Those, of course, have been hopeless cases.

I understood Mr. Gray to say that he considered hæmatoma of the flap of the ear to be caused by this particular acarus. I cannot see how that can cause the condition; I think it is due to external irritation, especially in dogs. More particularly do you get it in long-eared dogs, such as spaniels. When the condition affects the edges of the ear I found some trouble, for many years, in arresting it. At last I adopted a treatment very similar to an ordinary mange dressing, removing the scab each morning.

I would like to ask Mr. Gray if he can give me a reliable test for the detection of deafness in the dogs, especially Bull terriers. In my efforts to detect this, I have submitted these dogs to canine specialists and also to medical specialists, but with no appreciable results, and I should be grateful if a reliable test could be supplied by Mr. Gray.

Dr. TOM HARE: Excuse a pathologist intruding on a clinical subject, but there is one aspect of Mr. Gray's paper, namely his observations on Jacksonian epilepsy, which interests me. I understand Mr. Gray to say that a certain number of cases, having manifested typical Jacksonian epilepsy, eventually showed definite evidence of paralysis of the cranial nerves. I assume he regards the motor paralysis as a sequel to the epileptic state. Would Mr. Gray suggest that the external parasites found in such cases are other than coincident, or that they are probably excitants of a neuro-motor discharge? The cause of the cranial motor paralysis interests me very much and I should be very grateful if Mr. Gray, or any other clinician, would send me the head and spinal column of such cases as Mr. Gray has described. I should like to examine the brain microscopically, because one would imagine that a cranial motor paralysis would be due to some definite organic lesion of the central nervous system. As you know, Sir, we are trying to build up a museum at the Royal Veterinary College which will illustrate the whole range of systematic pathology in our domesticated animals. As yet I have not a single specimen of ear disease, so that I should appreciate very highly the kindness of clinicians in sending me specimens of such diseases.

Mr. W. PERRYMAN: I am sure we have all greatly enjoyed the privilege of hearing Mr. Henry Gray. He has been over a tremendous lot of ground, and it is a matter of impossibility for us to deal with all the points which come up for discussion.

It occurred to me that in discussing canker of the ear, Mr. Gray dwelt rather too strongly upon the symbiotic infection as being the chief cause.

(A MEMBER: In the cat.) Even in the cat, I do not quite agree. I look upon canker as being due to three causes—parasitic, specific diseases (such as distemper) and to mechanical causes, such as dirt, hair and wax. In treatment, Mr. Gray adopted a very drastic course. I think treatment with iodine and carbolic acid was suggested: although carbolic is a sedative, iodine is very irritant at the time. I think, as Mr. Rowe, and I believe Mr. Coleman also, stated, a more emollient form of treatment, especially in the early stages, is far more efficacious. I generally use some oily preparation, having a preference for a solution of oil of tar with either rape or olive oil.

I was particularly struck with the fact that, in discussing treatment, Mr. Gray made no reference to clipping the hair. I consider that was the first thing to do—to clip the hair away from the edges of the orifice of the ear, because it tickles the animal. In addition, one can thus get the dressings into the internal ear more easily.

In the earlier stages the proper method is to use the emollient forms of treatment, soothing the inflamed parts, and then later to apply the dry dressing treatment. I have noticed the great accumulation of cheesy material in the rabbit, and its amount is something to wonder at. I should like to know if Mr. Gray can give us any explanation of the enormous quantity.

Mr. Gray mentioned vascular keratitis as a complication of otorrhœa in the dog. I should like to know if Mr. Gray considers that to be a direct extension of inflammation from the auricular surfaces, or whether it is due to mechanical injury. I always look upon keratitis, and many eye lesions, as being more particularly due to the animal doing injury to itself by rubbing on mats, &c.

As to treatment of ear affections generally, I should be glad of more information about the clamp that Mr. Gray uses in hæmatoma. I understand that the clamp is stitched right through the cartilage of the ear, and that I regard as bad surgery. If you put a stitch right through the cartilage you will not get healing, but if you freshen the edges of the wound, and trim the cartilage, you will promote healing much more rapidly. For that reason, I certainly do not think that the ear clamp is of much use. I was very pleased to hear him mention otorrhœa of the horse. I have seen a good many cases at different times, particularly in hot weather—the horse throwing his head from one side to the other. Can Mr. Gray tell us if there is much discharge in those cases? I have never seen any. Can he, also, give us any information whereby we can tell which ear is affected? The treatment I have adopted is very much on the lines now stated—with ointments and emollient dressings, but it seems that only time will cure these cases.

As to warts on the horse, the mule and the donkey—has Mr. Gray ever taken a wart from the ear of a donkey or a mule? It is an acrobatic performance. What treatment would he suggest? Directly you approach the ears of a donkey or a mule the fireworks begin.

I believe he mentioned mange round the ears in the dog; I think that in treating mange, especially affecting the head of the dog, great attention should be paid to dressing the edges of the ears every day for several days, because I am quite satisfied that in many cases a satisfactory termination is not obtained, merely because the ears have been neglected. Would Mr. Gray kindly tell us what dressing he would suggest round the tips of the ears? I have found mercurial treatment with an ointment better than anything else.

Captain DUNLOP MARTIN: I should like to endorse what Professor Wooldridge said with regard to Mr. Gray's paper. I think it is a very valuable contribution, and I, too, think that we shall appreciate it better when we have been able to digest it somewhat more on reading it later.

With regard to the otorrhæa, commonly called canker, in the cat and dog, one agent I am very fond of using in those cases that will not yield to the remedy I most commonly employ—and which is a solution of liquor plumbi in methylated spirits, followed by powdered boracic acid, with a preparation of tannoform—is collosol iodine oil.

Mr. ROWE: I used to find the subnitrate of mercury ointment very good, first scraping the edge or the tip of the ear raw.

Mr. J. D. WILLIAMS: I have only one point upon which to join issue with Mr. Gray, and that is that I cannot see any ill results accruing from the entrance of a dog into a pond or stream. Even if he is immersed, the interior of a dog's ear never gets wet. I should like to add that when kittens come in for the usual operation I always look into their ears, and it is amazing what a number are suffering from ear trouble, and what a quantity of debris one finds collected there.

Mr. H. S. PURCHASE: I should like to ask Mr. Gray whether, in epidemic snuffles in rabbits, he has found much ear complication.

Miss K. SHEDLOCK: I desire to ask what treatment Mr. Gray would adopt in the case of a dog which has apparently a perfectly clean auditory canal, and yet holds his head on one side and cries. Also, what strength of sodium cacodylate does he use in cases of follicular scabies?

Professor JAMES MACQUEEN (from the Chair): Before calling upon Mr. Gray to reply, I should like to say that I agree with the remarks made by various speakers in ocmmendation of the very interesting and instructive paper submitted by Mr. Gray. I think he deserves high commendation for the trouble and industry his paper indicates by its details. (Applause.)

I desire to comment on two remarks that have fallen—one from Mr. Perryman and the other from several speakers. I was rather surprised to hear Mr. Perryman say that he had had no success with the stitching of the ear in cases of hæmatoma. In hæmatoma in the dog, and also in the horse—not so frequently, perhaps, in the cat—I have always found laying the hæmatoma open from one end to the other on the inner side and stitching the two layers of the ear together from the inside and the outside—using catgut, and tying the knots on the outer side of the ear—to be one of the best methods of treating cases of hæmatoma. I noticed some time ago that Mr. Gray introduced a clamp as a substitute for stitching, but I must say that in my experience I have never found any difficulty about healing a hæmatoma by long incision, pressing out the contents (without injections, or irritating the interior in any way) and then stitching the two membranes of the ear through and through, from the inside to the outside. The advantage of catgut is that it does not irritate and there is therefore no further treatment required beyond keeping the wound clean.

With regard to persistent shaking of the head, the view held in this country is that persistent shaking of the horse's head is due to neuritis of the supermaxillary division of the fifth cranial nerve, and in some cases you will find, close to the infraorbital foramen on the face, a small enlargement of the nerve. The treatment is neurectomy—removing the growth.

Mr. Gray's paper is exhaustive, instructive and highly interesting (Hear, hear.)

Captain DUNLOP MARTIN: If I may be allowed, I should like to ask, with regard to your method of stitching in your cases of hæmatoma, do you put your stitches across the wound or parallel to it?

The PRESIDENT: Across the wound.

Captain DUNLOP MARTIN: I find I achieve more success when stitching parallel to the wound.

The PRESIDENT: Maybe, but the main thing is to tie your knots on the outside and to use catgut, which, as I have said, is non-irritant. I have tried wire and also silk, but catgut is much to be preferred to either.

THE REPLY.

Mr. HENRY GRAY: I thank you all for the manner in which you have received this paper and discussed it, and thereby added to the knowledge of the subject, but I think most of you have misunderstood what I have said. (Laughter). A number of you have said things I have already stated in this paper.

Mr. Rowe accused me of using powders too early in cases. After trying various treatments, I used powder to dry up the secretion, and as for irritating dressings, they are not so irritating as his. The dressing I rely upon mostly is iodine, carbolic acid and glycerin—but it is the pure iodine and not the tincture. Pure iodine is a sedative, and so is carbolic acid. My iodine, carbolic acid and glycerin liniment will stop any irritation in the dog's ear in a few hours, and if you repeat it on the third or fourth day, you will only then require a little powder with which to finish off the case. Zinc chloride is of no value in acute cases, as it only irritates. I only use it where you get warty offshoots in the ear, when they will not respond to ordinary treatment. If you get these cases early, pure tincture of iodine without iodide of potassium will stop the irritation and after a few dressings with three or four days, intervals they will disappear, if the case is not of long standing. But in bad cases 10 per cent. zinc chloride is necessary to destroy these growths. If that does not do, I use an undiluted solution, with care, as a last resource. I do not cut out the hair, Mr. Rowe—I pull it out; if you cut it out it will grow stubby, and if you pull small pieces out no pain is caused. As for the outside of the ear, I use a steel comb. Why make hard work of anything? (Laughter.)

As I have said, I use iodine, carbolic acid and glycerin, which is non-irritant. But in bad cases you have to use drastic measures, and even so, my zinc chloride treatment for those small warts in the ear is not so irritant as you might imagine, and after one dressing with even the tincture of iodine (Ph. E. 1—16) in a chronic case subsequent dressings with it may be used without any pain whatever.

I have to address the same remarks to Mr. Coleman—some of his treatments are far more irritant than mine.

As for the detection of deafness in the dog, you can tell by the attitude, also by blowing a whistle and watching his movements.

Dr. Hare spoke about Jacksonian epilepsy. I have, I think, stated the facts as I have seen them. A coincidental irritation exists, I think, in the majority of cases. Why it is so common in the cat and rare in the dog, I do not know.

Captain Dunlop Martin mentioned the use of liquor plumbi subacetatis in canker, which I employ more as a mild astringent and sedative. His collosol iodine oil is used in a similar way to my dressing, which will cure any mortal thing that is curable. (Laughter.) My iodine treatment is not so drastic as Mr. Perryman's methylated spirit and iodine.

About the emollient treatment, that is all very well, but it does not get your case well, and as for the mange on the edge of the ear, you can always treat it successfully with a mercurial ointment, which causes desquamation of the cuticle, and thus reaches and kills the parasites. There is one thing about mange in the dog—you can always tell that, if you are not sure, by scratching the edge of the ear, when you will get a scratch reflex peculiar to scabies. In ninety-nine cases out of a hundred of generalised mange in the dog, the edge of the ear is always affected.

About the rabbit's ears filled with cheesy material—that is due to the fæces of the parasites, exudation, and dirt, commingled with the parasites in various stages of development. The connection of the ear with keratitis is accounted for by the fact that eczematous keratitis is a nutritional disease. There is no trouble about stitching up the cartilage in the ear and nostril of the horse. As for the use of my clamp, it is not necessary in the dog, but in the cat I use it to obtain pressure, and you cannot get recovery in the ear of the cat without that. It is necessary to prevent wrinkling and drawing down of the flap of the ear.

Mr. Williams spoke about water. Let your dog go into the Thames or the ponds in the parks and he will not infrequently get bad ears and sometimes troublesome skin disease also.

Miss Shedlock asked about her case. If she will use the iodine-carbolic-glycerin liniment I think she will have no more trouble with her dog's ear. As to the dose of sodium cacodylate. Sodium cacodylate (sodium dimethylarsenate) is soluble two in one of water, the anhydrous salt contains 46.83 per cent. of arsenium, equivalent to 61.82 per cent. of arsenious anhydride. The solution used for hypodermic injection contains forty-five milligrammes or three-quarter grain of the salt in one mil or fifteen minims of water. The dose of the dry salt is a quarter to four grains once in twenty-four hours. The dose of the hypodermic injection is from 1 to 4 cc. once a day. It is comparatively harmless and does not, when given by the subcutaneous route, disturb the digestive system of the dog or cat.

(Continued at foot of first column next page.)

Some Points in the Natural History and Therapeutics of British Red-water.

DISCUSSION ON MR. F. T. HARVEY'S PAPER.

(*Continued from page* 365).

The discusion upon Mr. Harvey's paper, presented to the Western Counties' Division, N.V.M.A., at Exeter on 21st March, 1929, and published in last week's *Record*, was opened conjointly by Mr. G. H. Gibbings, of Tavistock, and Mr. C. Masson, of Torquay.

Mr. GIBBINGS, introducing the discussion, said: Mr. Harvey has been rather hit by the fashion for pathology. I think he has stated that in many instances infected animals remain carriers during the remainder of their lives. If that is the case, it is hopeless to anticipate that the disease will be eradicated, and it is strange that the disease is not more widespread. I agree that the disease was more prevalent in tick-infested areas than was the case twenty years ago. There must be some cause for that. Mr. Harvey attributes it somewhat to the laying down of permanent pasture. That may obtain in some districts, but it would hardly apply in such districts as Tavistock, where there has been grassland from time immemorial. In looking for a cause, one has to ask whether there is any difference in farming compared with fifty years ago. I think there is. In the first place, there has been a remarkable increase in the use of artificial foods. Secondly, and what is more remarkable, farmers nowadays hardly ever use any lime. I have been told by an old man in the Tavistock district that at one time, at this period of the year, it was common to see the whole of the land white with lime. Now it is never seen, and I suppose the explanation is the expense it entails. Not only has there been an increase in red-water, but also a remarkable increase in parasitic diseases affecting young animals. To what extent that is due to calcium deficiency I cannot say.

Mr. Harvey alludes to the difficulty of drenching, and anyone with experience of red-water has met with a similar difficulty. Many animals have been killed during the process, more especially when salt has been administered. On labels attached to my drenches there is a note that the drench should be properly diluted and administered by means of a horn. If a veterinarian puts the bottle containing the solution into the animal's mouth and keeps it there until it is emptied, he is going to incur the risk of killing the animal; whereas, if it is given by the horn, sufficient is given for one gulp. I have drenched hundreds of animals and have never killed one in the process. It requires a great deal of patience, and not much temper, to drench a bull which is at all refractory. Mr. Harvey has referred to the spasmodic condition of the anus. That also involves the rectum. He has not mentioned anything in regard to the temperature, but I rely a good deal on the thermometer in the case of red-water. On the fourth day, if you get a temperature below 100°, you may frequently make arrangements for a *post-mortem*. Salt is recommended if one is compelled to use a drug. My practice is to give three-quarters of a pound of salt and not repeat for thirty-six hours. I am not in favour of a drastic remedy and I think a great deal of injury is done by repeated doses of salt, but I do not look upon antimony tartrate as such a drastic remedy. I am afraid I am very orthodox in the matter of nourishing gruels—I am not altogether in favour of linseed gruel. I think three-quarters of a gallon of milk and about a dozen eggs are decidedly beneficial: there is scarcely any resistance to the administration of such things as milk and eggs. Medicine and gruel should be stopped in the event of regurgitation.

Regarding the theoretical part of the paper, I fear that I can hardly follow Mr. Harvey, who says that the number of piroplasms in the blood bears no relationship to the prevalence of the disease. His theory is extraordinary, because, through extra work thrown on the liver, one is entitled to think that would upset the digestive organs and cause the animal to be visibly ill before red-water is discovered. This does not tally with the facts, because the first thing generally noticed is the discolouration of the urine. I have seen some good results from intravenous injection of antimony tartrate, and have used it rather extensively. The animal is given a dose and left for twenty-four or thirty-six hours, and it is not usually necessary to administer it a second time. Does Mr. Harvey really conscientiously believe that the administration of medicine has any effect on the course of red-water? What is the result of doses of salt? Unless the animal drinks freely you are not going to see much change in twenty-four hours. If it consumes a large quantity of water, as it invariably does, do not you think that the improvement is no so real as apparent?

Mr. C. MASSON said: I feel it is a great honour to be asked, in conjunction with Mr. Gibbings, to open the discussion on Mr. Harvey's most excellent contribution to our very scanty knowledge of red-water.

It is one of the finest contributions to which I have listened for some time, and, as it refers to a disease which is of paramount importance to all of us in the West of England, it is all the more interesting and important.

I feel certain that Mr. Harvey's notes will be considered the standard work of reference on the subject for some time to come, and I thank him most sincerely for the great amount of new knowledge which I, for one, have acquired by listening to his views on the subject.

Unfortunately, I feel I am quite incapable of fully discussing such a deep and highly-scientific subject, which is one which has given me much to think about, not only for the present, but all through the coming red-water season, for I feel now that I am only just beginning to learn something of red-water. I used to think I knew quite a lot concerning it, and have even gone the length of giving a lecture on the subject, but had I known then what I know now I would never have attempted to do so.

Mr. Harvey's lucid description of the part played by the liver has been a revelation to me, and I hope some of our more recent graduates will enter into the physiological and chemical aspects of the paper, for chemistry was never my "forte."

I note that the *Piroplasma divergens* is said to be the common one in the West of England. Has Mr. Harvey come across the *Piroplasma bigemina*, and would he kindly explain why the disease varies so much in virulence in different localities in the same district?

Could this be due to the two different piroplasms, and, if so, could he tell us whether one attack of red-water from one parasite protects the animal from an attack by the other?

I had made arrangements to carry out some research work on this subject this summer in collaboration with Mr. Le Page, the zoologist at the University College, Exeter, and so to endeavour to clear up some of these points,

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(*Continued from previous page.*)

Concerning horses shaking their heads, horse dealers used to put shot and oil in the animal's ears to stop it. It is due to the same causes as produce it in other animals, especially when they are warm, and I have not the least doubt that "megrims" are due to parasitic infestation. In the dog with a hæmatoma I have never found stitching of the ear to be necessary at all; I merely cut out a triangular piece of skin and squeeze out the contents. The triangular opening does not close up so soon as most incisions. No doubt Professor Macqueen's methods prove successful, but age has made me take the shortest route and get the best results. (Laughter.)

I have been asked about epidemic snuffles (infectious rhinitis) in the rabbit. That is a chronic condition which sometimes involves the ear in the rabbit, as it would in any other animal. The infectious process extends from the back of the nostrils via the Eustachian tubes. The only way to treat that disease is to get a vaccine made for your rabbits, if it is practicable to make one, or kill them off. (Laughter.)

but, if they have already been dealt with, there will be no necessity.

Mr. Harvey stated that " the great majority of infected animals show no symptoms, and therefore do not suffer from red-water or red urine." I quite agree with him there. I believe that many of the cases met with in the summer season, in which the only noticeable symptom is a rise of temperature, are really mild cases of bovine piroplasmosis.

He also said that " bovines which have been infected may remain infective for the rest of the natural life of the animal,, and may be capable of transmitting the disease to other animals." I knew it was possible up to eighteen months, but am very interested to learn that it may be for years.

He says " such animals are, in a way, ' carriers.' "

I think " reservoirs " or " cisterns " is a good word to cover such cases.

Mr. Harvey further states that " there is a minimum period of incubation, but no maximum period before clinical red-water manifests itself," and that " the maximum one may be one of years." I should like Mr. Harvey to amplify that. I understood the period was usually about ten days, or maybe a little longer.

He says, " In this country, at present, none of the usual treatments directly affects the parasite itself, except maybe antimony tartrate." Does he not think that sodium chloride—one of the commonest chemicals used in treating the disease—might have a parasito-tropic action ? I have always thought that it had ; probably by liberating free chlorine in the blood.

Mr. Harvey mentions some of the household remedies, and states that " many laymen have ' specifics ' for its cure, according to their individual temperaments." In my opinion, this is what makes red-water such an unsatisfactory disease to treat from the veterinary surgeon's point of view, because in most cases the farmer has tried his own ' specific ' first and only sends for the veterinary surgeon when things are not going right, and a death from red-water always goes down badly as far as the practitioner is concerned, for someone is sure to say afterwards that " if it had had such and such a remedy it would have recovered," and " he had never known his line of treatment to fail."

Mr. Harvey quotes, among other predisposing causes, œstrum (which he says "disturbes both male and female") as a determining factor. Would he kindly explain how it affects the male ? I have an idea, but may be quite wrong.

I was very interested in his remarks about the increase of tonus of the sphincter ani. I had never noticed it, but will certainly note it in future.

He proceeds to say that " among other things, heavy draughts of drinking water may lead to disastrous results." I know many farmers withhold water from the animals concerned, but, speaking for myself, I always prescribe an unlimited supply of water to drink, and am only too delighted if the animal drinks a lot. I have always contended that the water helps to do two things : firstly, it keeps the fæces from becoming too hard, and secondly, it acts with the sodium chloride (given in the drench) in forming an isotonic solution for the heart to work upon, for it is a well-known fact that animals with red-water micturate enormous quantities of fluid. I once timed a cow with red-water, micturating. She probably had a quarter of a minute's start before I got my watch out, but she continued for five and a quarter minutes afterwards.

I am not in a position to discuss the actual morbid processes going on in the body in a case of red-water, but I agree with Mr. Harvey that it is apparently the liver which is the chief organ concerned.

It is curious how geophagy, or earth eating, will often determine the result of a case of red-water which is hanging in the balance, and bring the animal back to her appetite and health when everything else has failed, and this is one of the reasons why I always order my patients to be turned out of doors—preferably in a shady orchard—while under treatment, if the weather is at all suitable.

I also agree with Mr. Harvey, that, on *post-mortem*, the tissues are all " dried up " and not moist, and this is really what one would expect when one remembers the huge quantities of fluids eliminated from the body, both by the bowels and kidneys, during an attack.

I think I am best able to speak on the treatment of red-water, and am delighted to find that such an able man as Mr. Harvey says " the three substances of prime importance are water, salt, and glucose." I can assure you that I felt quite happy hearing that, for that is my line of treatment—water, water, water, and sodium chloride to make the animal take more water. In other words, make her thirsty.

I believe that as long as the stomachs and intestines have something to work upon, they will keep moving, and thus not lose their tone ; hence, in red-water, in addition to allowing plenty of water, I allow the animal to eat anything it likes, excluding hay, and am only too keen to see it eat anything—ivy, apples, billiards (cow parsnips), ash leaves, cake, or any green food.

Like Mr. Harvey, I expect that my views on this matter will be considered unorthodox, but I have no intention of changing, unless Mr. Harvey can convince me that I am wrong, and he is the only man who will convince me if it is necessary, for I have implicit faith in him.

I agree that magnesium sulphate is best avoided, and since I gave it up have not had a case of impaction of the omasum in any case in which I have had the treating of the animal from the beginning.

I consider that quite a satisfactory laxative result can be obtained with the sodium chloride alone. I combine the twelve ounces of sodium chloride with one ounce of cinchona bark (or four drachms of quinine sulphate) and aromatics, and I always consider that the quinine has a specific action on the piroplasms, as in malaria. I give this in two quarts of warm oatmeal gruel in which a pound of lard has been dissolved. I firmly believe that the lard gets in between the leaves of the omasum, and, being of a higher melting point than oil, remains there longer than oil would, and thus prevents the obstinate constipation which, in my experience, is the commonest cause of death from this disease. My reason for giving such a large quantity of gruel is to prevent spasm of the pharynx from irritation by the sodium chloride.

I was very interested in Mr. Harvey's explanation as to the possible cause of the brain symptoms. I used to think these were solely due to toxins liberated in the system from the impaction and non-action of the bowels, or else from the anæmia of the brain, but now I know differently.

With regard to the lung symptoms, I used to attribute these to want of oxygen from the lowered red blood corpuscle content, in the same way as they occur in anæmia following severe hæmorrhage.

Like Mr. Harvey, I have no faith in " water cleansers," such as perchloride of iron or oil of terebinth.

I was very interested in Mr. Harvey's views as to the use of glucose. It never occurred to me in that light. I give the treacle firstly as a laxative and secondly as a food, but never realised that its value as a food was so great. I have never tried the subcutaneous infusion of glucose, but will certainly try it in future.

I have usually relied upon hypodermic injections of strychnine and caffein, and may say that I had great difficulty in obtaining one grain caffein tablets. I also use powders containing camphor, nux vomica and ammon. carb., for the owner to give, and put great faith in them.

With regard to antimony tartrate, I have never given it orally, but have considerable faith in its use intravenously. I have sixteen grain tablets made up, and one of these I dissolve in 10 c.c. of boiling water, and inject it intravenously, but I only do this in the early stages of the disease when the piroplasms are probably present in the blood in numbers, and consider that this line of treatment shortens the course of the disease.

I also give the sodium chloride and quinine drench simultaneously.

I cannot say that I have noticed the irritating antimony tartrate effect on the bowels which Mr. Harvey says occurs even when given intravenously.

Last summer I had a South African veterinary surgeon assisting me, who had had a considerable experience of East Coast fever, and he persuaded me to try trypan blue this summer. I have already got a supply, and intend to try it. The strength he recommended was a one per cent. or two per cent. solution freshly prepared and injected warm—from fifty to two hundred c.c. injected subcutaneously into the dewlap, or intravenously. The trypan blue must be freshly prepared and obtained from a good firm.

In my district I have two chief areas. West of Torquay the cases are always serious and require careful handling, and usually take five days before the urine clears, whereas east of Torquay the cases are so mild that one drench, or at most two drenches, effect a cure in twenty-four hours, and this is what prompted me to ask Mr. Harvey whether both piroplasms could be present, but this point I hope to clear up this summer.

I am afraid I have already taken up more time than I should have done, but my only excuse is that to me red-water is a most intriguing subject, and more so since Mr. Harvey has given me so much to think about.

I again thank Mr. Harvey for giving us one of the finest papers to which I have ever had the pleasure of listening.

Mr. W. FRYTH said that he had tried trypan blue in Zululand, but he did not find it very successful. He stood by antimony tartrate. He did not give animals much hope with a temperature below 100°.

Mr. J. DUNSTAN, responding to the Chairman's invitation to contribute to the discussion, said he was afraid that the request had come about twenty-five years too late. He knew something about the disease a quarter of a century ago. His experience was that trypan blue was of no use whatsoever.

Mr. S. J. THORBURN confessed that he had hardly seen a case of red-water for twenty years.

Mr. S. J. MOTTON pointed out that Mr. Harvey said he would rely on three drugs. "I should rely on only one," he said, and added with a smile, "That is water, for that is what the treatment of red-water boils down to."

Mr. C. MASSON emphasised that during experiments in South Africa four or five different makes of trypan blue were tried. Only one was good and that, unfortunately, was German.

Mr. HARVEY, replying to the discussion, said that the temperature was often very high in the early stages of the disease, and, as nutrition failed, the animal went down with it. A low temperature was, he agreed, disastrous. In cases where the hedges were not cut back the ticks were more sheltered. Farming was not so good as it used to be. On a well-kept farm conditions were not favourable to the life of the tick. In regard to diet, if they pumped a lot of stuff into the animal they destroyed its appetitie. Milk was an admirable food, but he had had best results from sugar in some form. He was convinced that if they were called to a case where the heart was going and they knew the animal might die at any moment, the safer and better plan was subcutaneous infusion—saline or glucose. If the bowels were acting well, in nine cases out of ten the animal did well. The disease, like every other, varied in different districts and different animals were more subject to a virulent attack. The treatment depended largely on getting the intestinal canal into good working order.

"As to cleaner milk," says the *Live Stock Journal* of 27th April, the Medical Officer's comment at Northallerton is that there is still need for greater and constant care in the production and handling of that fluid. The great reduction in the number of cases of infantile diarrhœa met with in recent years is largely due to cleaner milk. He regrets, however, that veterinary surgeons' activities do not extend to include general sanitary supervision of cowbyres and cows in milk. Obviously, the surgeons would be more authoritative than sanitary inspectors or medical officers in the proper housing and care of milk cows."

The Veterinary Record.

11th May, 1929.

R.C.V.S. COUNCIL ELECTION.

Voting papers for the election to Council of the R.C.V.S. will be issued to all members on Thursday, May 23rd. Any member who does not receive a voting paper, whether he desires to vote or not, should immediately report to the Registrar of the College, 10 Red Lion Square, London, W.C.1, in order to ascertain that his address is correctly entered in the Register of Veterinary Surgeons.

On the present occasion there will be nine vacancies, eight due to the retirement in rotation of members, all of whom have been nominated for re-election, with the exception of Mr. S. H. Slocock, who is not seeking re-election, and one in place of Mr. E. Alfred West, who, we are sorry to hear, has felt it necessary to resign for business and personal reasons.

The Annual Report, which will accompany the voting papers, should be carefully read by all members, as it contains an account of the stewardship of the members whom they have elected to the very onerous duties that fall on the Council of the College.

The members nominated for election are as follows :

Mr. Joseph H. Carter.
Major George W. Dunkin.
Professor F. T. G. Hobday.
Mr. William S. King.
Major W. Hamilton Kirk.
Mr. John McKinna.
Professor James Macqueen.
Major Duncan S. Rabagliati.
Lt.-Col. Percy J. Simpson.
Mr. Trevor F. Spencer.
Colonel G. K. Walker.
Lt.-Col. T. Dunlop Young.

R.C.V.S. OBITUARY.

SMITH, Thomas, Quarry Crest, Williton, Taunton. Graduated, Edinburgh, 21st December, 1894. Died, 3rd May, 1929.

PERSONAL.

Appointments. Mr. Andrew Sillars, M.R.C.V.S., has recently accepted an appointment as assistant veterinary inspector under the Surrey County Council. Mr. Sillars qualified from Glasgow Veterinary College in July, 1924, and has since built up an extensive practice at Buchlyvie.

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The following are amongst the appointments which have been made by the Secretary of State for the Colonies during the month ended 30th April, 1929: Mr. J. Heard, M.R.C.V.S., Veterinary Officer, Nigeria; Mr. H. G. Stewart, M.R.C.V.S., Veterinary Officer, Uganda.

CLINICAL AND CASE REPORTS.

Calcium Therapy in Milk Fever.

By Oscar Stinson, M.R.C.V.S.

I venture to seek publication of the following communication. Although it records the effects of a new therapy in only two cases of milk fever, the results were so striking as to indicate the specificity of the treatment in that disease.

The treatment about to be recorded was the outcome of the recent researches of Dryerre and Greig, in which they showed the invariable association of milk fever with a hypocalcæmia, and the effect of mammary inflation in progressively raising the concentration of blood calcium. As is well known, an inorganic salt of calcium, such as the chloride, is badly tolerated by the tissues and is quickly eliminated by the excretory organs, and Professor Russell Greig suggested the use of an organic salt of calcium in the treatment of milk fever.

A supply of calcium gluconate was sent me by Professor Greig and I resolved to put the treatment to the test at the first suitable opportunity. On March 19th, 1929, a second-calved dual-purpose Shorthorn cow was attacked with typical milk fever, staggering to the point of "going down," associated with a very pronounced mammary œdema of such a nature that I considered that it would be more satisfactory treatment—if recovery could be effected—to adopt calcium injection exclusive of mammary inflation. As an alternative to mammary inflation I therefore injected subcutaneously 200 c.c. of a 10 per cent. solution of calcium gluconate. The effect was remarkable, in that the cow showed an almost immediate improvement, which was rapidly progressive and was maintained until I left her at the end of the fourth hour after the calcium injection, when the animal appeared quite normal. A blood sample was drawn from the case five minutes before the calcium injection and again at the end of the fourth hour, when I left. These were submitted to the Royal (Dick) College and the report showed that the first sample contained 5.06 mgs. calcium per cent. and the second sample 6.00 mgs. calcium per cent.

It is interesting to note that in Dryerre and Greig's published findings they show that when a concentration of about 6 mgs. calcium per cent. is reached the cow usually regains apparent normality.

Although I have had no previous experience of calcium therapy in milk fever in cows, the conclusive evidence produced by Dryerre and Greig gave me confidence that I could place reliance on this line of treatment, exclusive of mammary inflation. I may add that this cow has shown no signs of recurrence. Recovery was as rapid as it was definite and complete.

The second case prescribed itself on April 5th, 1929. She "went down" in the forenoon, was semi-comatose and could make no attempt to rise, but could command an upright lying position. At 10-30 p.m. she received subcutaneously 200 c.c. of a 5 per cent. solution of calcium gluconate. Within fifteen minutes her appearance was wonderfully altered; the coma rapidly disappeared; she assumed a natural recumbent position, licked her muzzle and switched her tail; later she began to move about on the ground and made several attempts to rise. Within sixty minutes she drank gruel, ate a little hay and ruminated. Her appearance was normal, but she was unable to regain her feet, although she now made repeated attempts to do so, and the injection was repeated at 12-30 a.m. and at 3-20 a.m. I visited her again at 5-30 p.m., when she could almost get to the normal standing position. Although unable actually to stand, she would undoubtedly have been on her feet within two hours. As she was eighteen miles from home I lightly inflated the udder. Recovery was uneventful. Blood samples were taken at 10-25 p.m., before the first injection, before the 12-30 a.m. injection, and again before the 3-20 a.m. injection. A further sample was taken at 5-25 p.m. at the second visit before inflation of the udder. Those were also sent to the Edinburgh College for determination of the blood calcium and the report was as follows:—

Sample of blood No. 1, taken before first injection of calcium—5.68 mg. Ca.

Sample No. 2, taken before second injection of calcium—two hours after first injection—6.96 mg. Ca.

Sample No. 3, taken before third injection of calcium—two hours, fifty minutes after second injection—7.64 mg.Ca.

Sample No. 4, taken before inflation, fourteen hours, five minutes after third injection—8.92 mg. Ca.

The course of this case was similar to that frequently observed in many cases treated by mammary inflation, in which the symptoms of milk fever quickly disappear, but inability to rise persists for about twelve to twenty-four hours. She had been "down" from the forenoon until 10-30 p.m., before treatment was adopted, her condition appeared stationery and I considered that with inflation of the udder she probably would not rise quickly.

Since the parathyroid glands and blood calcium must be constantly fighting, as it were, against toxic conditions, which are present in most of our patients, I have recently used calcium therapy in many conditions with very good results. It is impossible at this early stage to give much information concerning these last-mentioned results, but I hope to be able, sometime in the future, to report on a series of cases. I am of the decided opinion that calcium gluconate has a great future in bovine therapy, apart from its apparent specificity, as demonstrated in the two cases of milk fever here recorded.

It is worthy of mention here that 20 c.c. of a 10 per cent. solution of calcium gluconate was subcutaneously injected into an in-lamb ewe, paralysed and suffering from a condition resembling "Moss staggers." She was on her feet and ran across the field within fifteen minutes of the injection. She has since lambed and there has been no sign of relapse.

Rupture of the Diaphragm in the Dog, and Two Cases for Differential Diagnosis.

By F. V. Steward, M.R.C.V.S,. Hereford.

Case I.

Subject. A terrier dog, about 10 or 12 months old.

History. Run over by a car on November 14th, 1927, and seen later that day.

Symptoms. The dog was quite conscious and the visible mucous membranes were pallid. The most

prominent symptom was severe dyspnœa, the dog having great difficulty in breathing and the respirations being markedly abdominal in character.

Diagnosis. Ruptured diaphragm and internal hæmorrhage.

Prognosis. Doubtful and withheld—a definite decision as to destruction or treatment was to be made next morning and in the meantime the dog was given gr. 1 morphine hydrochloride subcutaneously to ease the pain. The next morning the dog was found dead, having vomited a small quantity of blood.

Post-mortem Examination. This revealed a considerable amount of hæmorrhage into both peritoneal and thoracic cavities and a rupture of the diaphragm extending downwards from between the pillars towards the centre and about two inches in length.

CASE II.

Subject. A large terrier dog, aged nine years, run over the loins by a car about two hours previously.

Symptoms. The dog was semi-comatose on admission and the visible mucous membranes were very pallid. Pulse weak. Great dyspnœa was obvious and particularly abdominal in type. There was a serous swelling in the inguinal region.

Diagnosis. Internal hæmorrhage and rupture of the diaphragm, with a tentative diagnosis of rupture of the liver as being the cause of the hæmorrhage.

Prognisis. Appeared unfavourable and destruction was advised and immediately carried out.

Post-mortem Examination. There was considerable hæmorrhage into the peritoneal cavity. The spleen was found ruptured and almost divided into two across its narrowest portion. There was a rupture of the diaphragm of about one and a half to two inches long on the left side of the middle line immediately to the left of the hiatus aorticus and commencing just below the vertebræ. There was bruising, with blood extravasations, in the roof of the thorax from the ninth rib backwards to the diaphragm near the rupture and also some bruising around the right kidney. There was also a rupture of the liver about one inch long on the diaphragmatic surface of the right central lobe and the fissure was plugged with a blood clot. The stomach was full, this no doubt contributing in the causation of the rupture in the diaphragm, in conjunction with the compression of the viscera suffered by the animal when the car passed over him.

CASE III.

Subject. A terrier dog aged eighteen months.

History. Run over by a motor cycle on March 30th, 1928.

Symptoms. Mucous membranes anæmic. Respirations were very distressed, with exaggerated flank movements, especially on expiration—most marked expiratory dyspnœa. The dog also showed a compound fracture of the left hind femur in its lower third with protrusion of the upper portion of the bone through the skin.

Diagnosis. Fracture of the femur and ruptured diaphragm.

Prognosis. Unfavourable. Destruction was advised and carried out.

Post-mortem Examination. The liver showed several areas of sub-capsular hæmorrhage and the diaphragm an extensive rupture of about $3\frac{1}{2}$—$4\frac{1}{2}$ inches long, while the stomach and spleen were found in the left side of the chest. There was about a handful of ingesta in the stomach and the chest cavity contained a considerable amount of blood.

CASE IV. HAEMORRHAGE INTO THE MEDIASTINAL SAC.

A terrier dog of unknown age was knocked over by a car and brought for examination. The dog was in a state of severe shock and suffering somewhat from loss of blood, and was showing well-marked dyspnœa—very exaggerated respirations of abdominal type. The dog was not fully conscious and it was noted that when placed on his side respirations were more difficult. On auscultation of the chest no sounds of free fluid were heard.

Destruction of the dog was advised as it was believed that there was either rupture of the diaphragm or severe intra-thoracic hæmorrhage.

Post-mortem Examination. This revealed, as the only injury, a hæmorrhage (probably under two fluid ounces) into the anterior mediastinal sac, which was imperforate. The source of the hæmorrhage was not definitely discovered.

CASE V. HAEMORRHAGE INTO THE PLEURAL SAC.

In one case of this type (of which the case report is lost) symptoms suggested phrenic rupture, but on *post mortem* examination a hæmorrhage under the pleura of one lung was the chief lesion.

COMMENTS. The chief causes of phrenic rupture would appear to be motor accidents, in which the animal has been run over and has suffered great compression of the viscera, and the main symptom leading to its recognition, taken in conjunction with the history, is great dyspnœa, which is usually more markedly expiratory than inspiratory in type. The dyspnœa is not increased by placing the patient on its side, as it sometimes is when hæmorrhage or free fluid is the cause of the respiratory distress.

REVIEW.

[La Vaccination Anti-tuberculeuse avec les Bacilles Vivants chez les Animaux et chez l'Homme. ASCOLI, A.] Abridged French edition, by CAYREL, M. pp. 1—235. Milan: Instituto Editoriale Cisalpino. Corso Italia 40 (Price 30 lire.).

This volume is an abridged French edition of a more detailed Italian publication. A footnote on the last page craves indulgence for misprints and other errors on the ground that time did not permit of proper reading and correction of the proofs of this edition, which was prepared rather hurriedly for presentation at a Congress. Correction is promised in the next edition. It must be admitted that the volume contains these in rather large numbers and that at times they result in some difficulty in ascertaining the author's meaning.

The earlier chapters contain a historical survey of the subject of vaccination against tuberculosis. There is then passed under review the most recent work in this connection, namely that of Calmette and Guèrin. The latter half of the volume deals with the use of B.C.G. vaccine for the immunisation of human beings.

The author points out that the establishment of the bovine and human tubercle bacilli as distinct types formed the first basis upon which all work connected with the

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production of immunity rested. He strongly champions the claims of Maffucci to be considered along with Koch and von Behring as one of the pioneers of this work.

In turn, the work of a number of investigators who prepared vaccines against tuberculosis in bovines is dealt with. The dangers attaching to the use of human tubercle bacilli for this purpose are clearly brought out, and it is shown that, while human tubercle bacilli can be proved to be capable of increasing the powers of resistance of bovine animals against subsequent infection, the dangers rule them out as being of any practical value for the solution of the problem.

The somewhat discordant results obtained by a number of investigators are referred to and the explanation offered is that in the majority of cases the so-called negative phase was overlooked. In some cases test inoculations were made before, and in others after, immunity had had time to develop.

Ascoli is a staunch supporter of the B.C.G. method of vaccination for cattle, and some account is given of his own experiments in this connection. Throughout the book emphasis is laid upon the impossibility of estimating the value of any kind of vaccination against tuberculosis for large animals from results obtained with rabbits and guinea-pigs.

It is hoped that when the next edition is published the full text will be available, together with the illustrations, many of which have been omitted in this abridged French translation. A. L. S.

From The Veterinarian, May, 1828.

On Prize Essays by Pupils.

We feel equally with our correspondent W.H. the importance of cultivating a spirit of enquiry in our young friends. The ignorance of the farrier will no longer be tolerated in the veterinary surgeon. The members of our profession must vindicate their claim to public respect, by diligent research and scientific acquirements.

We will extend the plan of our friend W.H. to all veterinary students, whether residing with private practitioners or having entered at the Veterinary College, and not exceeding the age of twenty-one years: and we will propose as the first essay. "The roots, course, peculiarities, and functions of the five first pairs of cerebral nerves."

We will not only insert in our journal that paper which, after deliberate examination, we shall deem the best, but, if our friends display the industry and talent which we anticipate, we may be induced to present them with a medal, of little value possibly in itself, but the honest testimony of our esteem.

Each essay must be headed with a motto, and subscribed with an initial. We will in our number for September declare the initial, and the successful candidate will then favour us with his name and address, and a copy of the motto as a verification of his claim; and a declaration from the preceptor, or master or father, that the essay is *bona fide* the composition of the candidate, and the result of his unassisted dissection. All essays must be sent (post paid) on or before 15th of August.

MUNICIPAL REPORT.

City of Birmingham.

The Report of the Veterinary Superintendent for the City of Birmingham, Mr. Brennan De Vine, for the year 1928, deals with work carried out under the Markets and Fairs Committee, the Public Health Committee, and the Salvage and Stables Committee.

The Staff consists of six veterinary surgeons, in addition to the superintendent, and seven lay inspectors, a notable fact being that most of the veterinary surgeons possess the public health qualification.

The work of the Department is well organised and includes administration of the Diseases of Animals Acts, Food Inspection, and the control of the purchase and management of the horses employed on Corporation work.

The inspection of all premises where food is handled and premises are used for the making of food products is carried out and entails a considerable amount of work, constituting, indeed, an important feature of the work of the Department.

There were 11,558 cases of surrender of meat during the year and 1,975 of other foods, equal to a total of 593 tons of meat and 172 tons of other foods condemned as unfit for human consumption.

Food poisoning cases were investigated and many preventative measures carried out by food sampling and examination to limit this danger.

The responsibility of having an adequate number of inspectors to detect meat, apart from the onus of responsibility being on the purveyors of meat to report disease, is recognised and legislation in the Meat Regulations places the responsibility on Local Authorities to detect diseased meat in abattoirs under their control and management.

The whole of the work under the Diseases of Animals Acts and Orders of the Ministry of Agriculture is carried out by the staff of the Veterinary Department, and during the year the number of outbreaks of scheduled diseases confirmed shows a reduction on previous years.

Nineteen animals in the city area were dealt with under the Tuberculosis Order, and compensation amounting to £49 10s. 0d. was paid to the owners.

The precautions to reduce the amount of tuberculous infection in the milk sold in the city have been continued on similar lines to previous years, namely:—

1. The detection of infection in the milk supply both from city dairies and outside sources.
2. The eradication of tuberculosis from dairy herds supplying milk to Birmingham.

A summary of the work done is given.

Both these measures are good in principle. Samples of milk numbering 1,056 were examined for the presence of tubercle bacilli and, of these, 96, or 9 per cent., were found to have tuberculous infection.

In the tracing of these 96 positive milks, 91 were from herds outside the city area and 80 cows suffering from tuberculosis of the udder were found and slaughtered by the Local Authority concerned.

In 22 farms the cause of infection was not discovered, and the explanation given in the report is that the offending animals had either been disposed of or had "gone dry" between the time of sampling the milk and the result of the biological test and inspection of the herds. It is the experience of other Local Authorities to have a percentage of mixed milks proved tuberculous, in a small proportion of which no satisfactory explanation can be given as to why the infection should be present in sampling the mixed milk and absent when a sample is taken from the cows whose milk was previously examined.

In the eradication of tuberculosis from dairy herds supplying milk to Birmingham the veterinary staff tested 25 herds, and 19 were included in this scheme for the eradication of tuberculosis at 31st December. The testing of the herds is carried out half-yearly and, of these, seven are tested for "Certified" or "Grade A (Tuberculin Tested)" milk. Cows totalling 1,774 were tested, of which 1,546 passed the test and 228 failed.

This scheme has much to recommend it and shows the active interest taken in our greatest present day problem, *viz.*, that of freeing our dairy herds from tuberculosis.

If this scheme, which has now been carried out in Birmingham for some time, should appear practical, there certainly seems no reason why it should not be seriously considered as a national policy in the near future and such a policy would be of great assistance to the meat and farming industries, as well as to the protection of our milk supplies.

The report on the control and management of the horses belonging to the Corporation is an excellent summary of expenditure and income. The return shows the stable expenditure, including horse purchase account, as £37,009 6s. 7d. The total number of horses at the end of the year was 471 and the total weekly cost of the horse upkeep inclusive amounted to 32/0.71, a slight increase on the previous year.

The health of the stud throughout the year has been good and the number of horses off work from all causes averaged only 2.1 per cent., which shows the remarkable efficiency of the stud.

The annual visit to the Stables and Granary took place on June 3rd, when the Lord Mayor, the Chairman and members of horse-owning Committees attended.

The report contains both interesting and valuable information on the work of the Veterinary Department of one of our leading Local Authorities. W. T.

Poultry Disease Research.

The National Poultry Council has drawn the attention of the Ministry of Agriculture to the "continued neglect of investigation work in contagious diseases of poultry, the present inadequacy of the laboratory staff, and complete absence of field staff under the National Poultry Institute scheme of work at Addlestone." Bearing in mind that a substantial grant has recently been made by the Empire Marketing Board for the extension of research facilities into questions affecting production, the Council considered that a great national service would be rendered by the provision of funds to enable the Ministry's laboratory to undertake investigation into poultry disease in an adequate manner.

Royal College of Veterinary Surgeons.

Special Meeting of Council.

A special meeting of Council was held immediately following the ordinary meeting, the proceedings of which were reported in last week's *Record*. Lieut.-Colonel J. W. Brittlebank, C.M.G., Vice-President, occupied the Chair, and the same members were present as at the quarterly meeting.

The minutes of the last meeting, which had been printed and circulated, were taken as read and confirmed.

Alteration of Bye-laws.

Prof. Buxton: I beg to move the consequential alterations of Bye-laws which stand in my name on the Agenda as follows:—

Bye-law 73. In place of the words "each paper" in line 4, insert "the paper in Surgery and Obstetrics" and after the word "attempted" in line 5, insert "and the paper in Medicine and Meat Inspection shall consist of eight questions in Medicine and two in Meat Inspection, of which seven only (including one from Meat Inspection Section) are to be attempted."

Bye-law 107. To omit "a centre (or centres) of Veterinary teaching," and to insert in lieu thereof the words "one centre."

Bye-law 108. To insert in place of the words "shall be" in the last line, the following words: "in both groups shall be five guineas and for re-examination in one group."

To add to this Byelaw: "On the award of the Diploma, every successful candidate shall pay a registration fee of two guineas."

Bye-law 110. To omit the first two paragraphs and insert in lieu thereof the following:—

"A panel of Examiners shall be elected for a period not exceeding three years, from whom the Examiners for any particular examination shall be chosen by the President.

"In Group I. there shall be two Examiners, and in Group II. three Examiners, but in no case shall a teacher of a subject act as Examiner of his own students."

Prof. Wooldridge: I second the resolution, and in doing so I should like to ask if it is possible to make a verbal amendment in the wording of any of these Bye-laws. The point is this. In the alteration to Bye-law 73 the terminal sentence reads "of which seven only (including one from Meat Inspection Section) are to be attempted." That reads as though it were intended that only one question should be answered, whereas, as a matter of fact, it should be either one or both. I should like to know whether that could be altered to read "including one or both from Meat Inspection Section."

Prof. Buxton: I am willing to accept that verbal amendment.

The Chairman: As the proposer accepts the amendment, I will now put the resolution as amended.

The resolution was then put and carried unanimously.

A hearty vote of thanks having been accorded to Colonel Brittlebank for his kindness in taking the Chair, the meeting terminated.

The International Veterinary Congress, 1930.

MEETING OF THE ORGANISING COMMITTEE.

A meeting of the Organising Committee was held at 10 Red Lion Square, London, W.C.1., on Friday, April 12th, 1929, when the following were present :—

Sir John M'Fadyean, in the Chair, Dr. W. Horner Andrews, Dr. O. Charnock Bradley, Lieut.-Col. J. W. Brittlebank, Professor J. B. Buxton, Mr. J. H. Carter, Professor J. F. Craig, Major G. W. Dunkin, Mr. C. W. Elam, Professor S. H. Gaiger, Mr. A. Gofton, Mr. Henry Gray, Professor F. T. G. Hobday, Mr. J. Holroyd, Mr. R. Hughes, Mr. D. Imrie, Mr. T. Eaton Jones, Mr. G. H. Livesey, Mr. G. H. Locke, Mr. J. W. McIntosh, Mr. G. P. Male, Dr. F. C. Minett, Major-General Sir John Moore, Mr. W. A. Pool, Lieut.-Col. H. A. Reid, Captain E. Brayley Reynolds, Mr. H. L. Roberts, Major General H. T. Sawyer, Dr. A. Leslie Sheather, Lieut.-Col. P. J. Simpson, Mr. H. Sumner, Captain W. K. Townson, Mr. A. M. Trotter, Captain S. Villar, Colonel G. K. Walker, Professor A. W. Whitehouse, Mr. J. Willett, Mr. W. Woods, Lieut.-Col. T. Dunlop Young.

Apologies for absence were received from Mr. H. Begg, Mr. F. W. Emery, Mr. J. J. R. Jackson, Captain A. W. Noel Pillers, Major D. S. Rabagliati, Captain J. R. Rider, Mr. J. P. Rice, Dr. J. T. Share-Jones and Mr. R. Simpson.

The minutes of the previous meeting of the Committee were taken as read and signed as correct.

PROGRAMME COMMITTEE.—The following report of the Programme Committee was read and adopted :—

At a meeting of the Programme Committee of the XIth International Veterinary Congress, held on 10th April, 1929, suggestions for the amendment of the draft Programme were received from Hungary and Sweden and duly considered.

It was resolved that the representatives of this country on the Permanent Committee be authorised to intimate the agreement of the meeting with the following amendments :—

Section I.—To take out " Meat and " from subsection (*c*) and insert a new subject (*a*) " Control of the production and distribution of Meat."

Section II.—To transfer to this section the subject of Mastitis from Section 4 and to place Sterility in Section 4.

FINANCE COMMITTEE.—The following report of the Finance Committee was read and adopted :—

At a meeting of the Finance Committee of the XIth International Veterinary Congress, held on 10th April, 1929 :—The Treasurer submitted a report on the income and expenditure during the past quarter, which was received and adopted. He also reported the purchase of filing cabinets at a cost of £37 10s.

The General Secretary reported that negotiations for the hire of the Central Hall, Westminster, had been completed and a deposit of £50 paid on account of rent.

The question of clerical assistance was considered, but deferred till the next meeting, the Secretary being empowered to engage extra clerical assistance if urgently required.

The General Secretary was authorised to obtain estimates for the printing work required in connection with the Congress.

It was resolved that in recognition of the valuable services Dr. Bullock has rendered in connection with the work of the International Veterinary Congress during the past fifteen years, he be granted an honorarium of one hundred and fifty guineas.

MEETING OF PERMANENT COMMISSION.—It was resolved that it be left in the hands of the Chairman to arrange with the representatives of this Committee on the Permanent Commission for two of them to attend the meeting of the Permanent Commission to be held in Paris, on June 13th, for the purpose of finally deciding the programme of subjects.

PATRON.—On the motion of Colonel Brittlebank, seconded by Dr. Bradley, it was resolved that an application be made to H.M. The King, requesting him to honour the Congress with his patronage.

COMMITTEE OF HONOUR.—On the motion of the President, seconded by Dr. Bradley, it was resolved that a Committee of Honour be appointed, to consist of the ambassadors of all countries who are officially accredited to this country.

OFFICIAL DELEGATES.—(*a*) *Colonies and Foreign Countries.* Mr. Gofton proposed, Dr. Andrews seconded, and it was resolved that the Ministry of Agriculture be requested to take the necessary steps to obtain the co-operation of the Foreign Office for the purpose of the issue of official invitations to the governments of foreign countries and British Dominions and Colonies for the appointment of delegates to attend the Congress.

(*b*) *Counties, County Boroughs, and Municipalities.* On the motion of Mr. T. Eaton Jones, seconded by Mr. Male, it was resolved that official invitations be issued to all counties, county boroughs and municipalities in Great Britain and Northern Ireland to appoint delegates to attend the Congress.

(*c*) *Schools, Institutions, etc.* The General Secretary was instructed to draw up a list of schools, institutions, etc., which should be asked to appoint delegates and to submit the same to the Committee at its next meeting.

(*d*) The General Secretary was instructed to prepare a form of invitation for the appointment of delegates and to submit the same to the Committee at its next meeting.

OFFICIAL TRAVEL AGENTS.—A letter was received from Thomas Cook and Sons, requesting appointment as official travel agents. It was resolved that the matter be referred to the Finance Committee with power to act.

REPORTERS.—The question of the appointment of authors of papers to be read at the Congress was considered, and it was resolved (*a*) that the consideration of the nomination of Reporters to be received from the National Committees be referred to the Programme Committee with power to act.

(*b*) That Professor Gaiger be added to the Programme Committee.

OFFICIAL ENTERTAINMENTS.—The question of the provision of entertainments was submitted and referred to the Finance Committee for consideration.

Errata.— Veterinary Record, No. 52, Vol. VIII, page 1128, Dec. 29th, 1928, Review of the Annual Report of the Veterinary Department, Uganda Protectorate, 1927 :—

Para. 2, line 5—" Ten Stock Officers " to read " Four Stock Inspectors," line 6, " Three Senior Clerks " to read " Three European Clerks."

Para. 4, line 18—" unimmunised " to read " immunised."

DIVISIONAL REPORTS.

Central Division, N.V.M.A.

The presentation of an exhaustive paper by Mr. Henry Gray, on the subject of Veterinary Otology, was the chief feature of a well-attended meeting of the Central Veterinary Society which was held at 10 Red Lion Square, W.C., on Thursday, April 11th, 1929.

The President (Professor James Macqueen) occupied the chair, and there were also present:—Lieut.-Col. E. P. Argyle, Captain L. S. Balls, Mr. H. Bell, Mr. W. Brown, Captain R. Bryden, Messrs. H. E. Bywater, J. C. Coleman, H. Gray, H. D. Jones, H. C. P. King, Herbert King and G. H. Livesey, Captain G. D. Martin, Professor J. McCunn, Mr. J. W. McIntosh, Mr. A. B. Orr, Col. W. A. Pallin, Mr. W. Perryman, Mr. H. L. Roberts, Mr. J. Rowe, Miss K. W. Shedlock, Lieut.-Col. P. J. Simpson, Lieut.-Col. P. W. Dayer Smith, Mr. J. Stephens, Mr. E. L. Stroud, Captain W. K. Townson, Mr. R. A. Willett, Mr. J. D. Williams, Professor G. H. Wooldridge and J. F. Macdonald (Hon. Secretary).

Visitors.—Messrs. N. H. Hole, H. S. Purchase, T. J. Richardson and E. C. Sparrow.

The receipt was announced of letters of regret at their inability to attend the meeting from Major F. Chambers, Major H. Kirk, Captain S. J. Motton, Major-General Sir John Moore, Major G. Rees-Mogg, Mr. S. H. Slocock, Mr. M. Tailby and Major R. F. Wall.

The PRESIDENT now submitted for confirmation the minutes of the previous meeting of the Division, which had been published in the *Veterinary Record*.

Professor G.H.WOOLDRIDGE: Arising out of the minutes, may I draw attention to a point to which my notice has been drawn by members of the profession outside, in regard to the proceedings of the last meeting.

At that meeting a certain resolution was proposed and ultimately withdrawn, and the very long speech in which that resolution was proposed, and the resolution itself, were reported. In my opinion it was rather unfortunate that they were published. It was quite evident at the time of the meeting that the resolution would have been lost very heavily, but the speech and the resolution, as published, might give the interpretation that a large number of those present might have held the same view as the speaker.

The resolution resolved itself with a motion of censure on the Society, and I cannot help voicing a feeling of regret that the speech was not deleted. All I desire now is an expression of opinion from other Fellows that they agree with that view, because, if that is so, it will go far to mitigate the evil of that speech.

Mr. J. W. MCINTOSH: I am in entire sympathy with Professor Wooldridge's view in this matter, but as I have already entered my protest, and it has been published, I do not think I need say anything further. I think that the remarks made were certainly unworthy of this Society, and it would have been better, in the interests of the profession, if the remarks made by the proposer of the resolution were deleted entirely from the proceedings of the Division.

Mr. HENRY GRAY: I think the mistake was made in not informing the meeting why the decision had been arrived at not to publish the proceedings on the occasion of the discussion, which took place on the R.S.P.C.A. scheme.

Mr. MCINTOSH: In reply to Mr. Gray, I think a full explanation was given, and in any case I do not think an explanation was or is needed. If you remit certain matters to a committee appointed by yourselves, with full powers, I think you ought to be satisfied with the action taken. (Hear, hear).

Replying to Mr. COLEMAN, who enquired why the matter had been raised again, Professor WOOLDRIDGE said that he brought it up because the Society, since the publication of that speech and resolution (withdrawn by the mover), had been held up to ridicule by a number of members of the profession outside.

The PRESIDENT: If no other Fellow has any observations to make on this matter, I suppose I may sign the minutes. The statements now made will be recorded immediately after the reference to the submission of the minutes for confirmation in the published report of the proceedings of this meeting.

The Annual Dinner. The meeting carried, by a large majority, a motion by Mr. COLEMAN, seconded by Mr. LIVESEY to approve a recommendation by the Council of the Division that the practice of inviting ladies, with the exception of lady graduates, to the annual dinner, should be discontinued, ladies to be invited to attend a social evening to be arranged for a date subsequent to the dinner.

The Summer Outing. The Council had also remitted to general meeting for decision the question whether the summer outing—to take the form of a visit to Lord Woolavington's Thoroughbred Stud at Lamington Park—should take place on July 9th or 10th, or on the 23rd or 24th of that month. The later dates were selected as alternatives.

(*a*) *Nomination for and* (*b*) *Election to Fellowship.* Mr. J. L. Cormack (Coventry) was nominated as a Fellow of the Society, and the election as Honorary Fellow was made of Captain R. H. Heywood, of Australia House, W.C., Veterinary Representative in this Country of the Australian Government.

INTERESTING CASES.

Choreiform Twitchings in Kitten. Mr. HENRY GRAY produced for inspection a kitten, showing choreiform twitchings. This case was no doubt due, he said, to some congenital defect of the nervous system, as beyond the intermittent, short, sharp twitchings of the muscles of the ears and then of the face and eyelids and eyentually the lips, there were plantigrade movements of the limbs at times. The twitchings occurred mostly on one side of the face at the time it was first seen (March 8th) and then appeared on the other; sometimes they appeared on both sides at the same time. There were intervals of quietude. The movements of the eyelids often gave the animal a blinking appearance. The points of the ears approached one another towards the central line, as in some wild cats. There was no resemblance between these choreiform movements and those seen in the dog after distemper.

Replying to Mr. Livesey, Mr. Gray said that the ears were perfectly clean. Proceeding, he remarked that he did not know the cat's ancestry.

Labyrinthine Vertigo in a Pekingese. Mr. R. A. WILLETT exhibited a small Pekingese, which, he said, had been brought to him three weeks previously with a discharge from the right ear. Two days afterwards there was a slight improvement, but in the middle of the night he was sent for, and found the dog just as they saw him then—hardly able to stand and with his head twisted right round. All the natural functions were quite as they should be. To his mind, there were two possibilities as to causation. One was that the dog, which slept on a sofa, fell off and injured his neck, and the other was that he had had a slight stroke.

Mr. GRAY expressed the opinion that the interesting case shown by Mr. Willett was one of labyrinthine vertigo, due to disturbance of the semicircular canals. He had seen it connected with tuberculosis, this being proved by the tuberculin test and *post-mortem*. He mentioned this in a paper on tuberculosis of the dog and cat in the *Veterinary Journal*, March, 1925, and reference was also made to it on p. 528 of Nicolas's "Veterinary Ophthalmology."

Mr. WILLETT added that the dog, which was quite young, had never ailed in any other respect, according to the owners, who had bred it themselves. There was no pain whatsoever, and the only treatment given had been massage.

There being no other business, the President called upon Mr. Gray to present his paper. A good discussion followed, and both are reproduced at the commencement of this issue of the *Record*.

The meeting concluded with the passing of a hearty vote of thanks to Mr. Gray for his paper, and the according of a similar tribute to the President for his conduct of the proceedings.

J. F. MACDONALD, *Hon. Secretary.*

Southern Counties Division, N.V.M.A.*

ANNUAL MEETING AT BOURNEMOUTH.

The forty-fifth annual general meeting of this Division was held on Thursday, March 28th, at the Gervis Hall Restaurant, Bournemouth, when the retiring President, Mr. J. B. Tutt, of Winchester, presided at the commencement of the proceedings. The others who signed the attendance book included Messrs. E. Whitley Baker, W. Caudwell, John Facer, J. Fox, Bernard Gorton, E. S. Martin, G. Parr, W. E. Petty, R. Porteous, C. Pack, A. C. Rockett, J. H. Ripley, T. Y. Ransom, J. Tutt, Jun., and J. Stewart Wood, together with the following visitors—Messrs. R. E. Klyne and G. K. Fenn-Smith.

Apologies for inability to attend were announced from Miss Cust, Professor Hobday, and Messrs. G. N. Gould, G. R. Harding, W. F. Maynard, J. W. McIntosh, G. P. Male, P. J. Simpson, C. G. Saunders and Dr. A. L. Sheather.

The minutes of the last meeting, as published in the *Veterinary Record*, were taken as read and confirmed.

The HONORARY SECRETARY (Mr. J. Facer) said they would remember that, at the last meeting at Salisbury he was directed to write to the National Veterinary Medical Association suggesting that they should urge on the Ministry of Health the desirability of a more frequent enforcement of the regulations made under the Milk and Dairies Order for the periodical inspection of cows and examination of milk for tuberculosis, as there was reason to believe that in certain districts no action whatever was being taken. He had since received a reply that the Council of the N.V.M.A. had unanimously supported their resolution and had asked the Ministry to receive a deputation from the Association on the subject.

The PRESIDENT remarked that he was present at the meeting, when Colonel Brittlebank was emphatic that that matter should be pressed.

Resignations.—Letters were read from Mr. Gerald W. Bloxsome, of Southwick, and Mr. H. Burrell, of Croydon, tendering their resignations as they were unable to attend any of the meetings.

The PRESIDENT presumed that there was no alternative but to accept both resignations with regret.

Mr. CAUDWELL said he did not know whether they were aware of the fact, but next year would mark the Jubilee of their Society. That was the forty-fifth annual meeting, but next year it would really be fifty years since the first meeting was held, in London. Since then, many new Societies had been formed, and one could quite understand the inability of some of their older members to attend their meetings. They were sorry, of course, to receive these resignations, but he agreed with the President that there was no option but to accept them.

The meeting concurred.

Nomination.—Mr. R. E. Klyne was nominated for election at the next meeting.

Treasurer's Report.—Called upon for his report as Honorary Treasurer, Mr. E. WHITLEY BAKER said they would remember at the last meeting he told them he then had a balance of £38 2s. 6d. in hand, but as that was their annual meeting they would like to know the position to date. Since they met at Salisbury he had forwarded a four years' subscription to the Benevolent Fund and he had also sent a guinea subscription to the National Horse Association, as voted at that meeting, and paid one or two other small outstanding accounts. On the other hand, he had received a further £18 18s. in subscriptions, but many of these were of course in respect to the current year. He did not know whether he was to attribute it to the gentleman's generosity, but their Honorary Secretary's expenses for the whole year amounted to exactly one guinea. If Mr. Facer could manage to keep his expenses down to that sum he was either to be congratulated or thanked. (Applause.) The Division now had a balance of £39 14s. 0d.

On the proposition of Mr. CAUDWELL, seconded by Captain ROCKETT, the statement submitted by the Honorary Treasurer was formally approved.

Secretary's Report.—The HONORARY SECRETARY, in his report, said the total number of members, exclusive of honorary members, was 48. They had had unfortunately to deplore the death of one of their number, Captain C. H. Sheather, and Mr. D. Pugh had resigned—in addition to which they had that day accepted the resignations of Mr. G. Bloxsome and Mr. H. Burrell; but, on the other hand, one new member had been nominated that afternoon. Two meetings had been held at Southampton during the

* Received on 6th April.

past year, one in May and another in July, and they also held one at Salisbury in November.

The report was adopted, on the motion of Captain Rockett, seconded by Professor Gorton.

Election of Officers.

President.—The election of officers was next proceeded with, and in submitting the name of Captain Rockett for the Presidency, Mr. Caudwell said the latter had done good work for the Society, and he was certain he would make a worthy successor to those who had filled their presidential chair in the past.

Professor Gorton seconded, and the resolution was unanimously agreed to.

Captain Rockett, in acknowledgment, said he thanked them very much for the honour. He thought they might have made a much better choice, but he would do his best to justify their action. (Applause).

Vice-Presidents.—Captain Fox suggested that they should also appoint a vice-president who would be prepared to take on the office next year.

Mr. Whitley Baker explained that they had already been in the habit of doing this and Mr. Pack was appointed vice-president two years ago with a view to succeeding Mr. Tutt, but in the circumstances with which they were then faced he did not see his way to take the office and Mr. Tutt kindly consented to carry on for the second year. Mr. Pack, Mr. Baker went on to say, was not only one of their oldest members, but he was also one of their most regular attendants at their meetings and he would like to see him elected a Vice-President with a view to his taking the chair again during what would be the Society's jubilee year.

Mr. Parr seconded this, but Mr. Pack stated that he must decline, much as he appreciated the compliment. Had he been a little younger he would have viewed the suggestion differently.

Mr. Facer suggested that in these circumstances they might elect Captain Fox and Major Porteous as Vice-Presidents, leaving it to them to settle between themselves who would take on the next Presidency; and this was seconded by Mr. Caudwell and unanimously accepted by the meeting.

Hon. Treasurer—Mr. Whitley Baker (re-elected).

Honorary Secretary—Mr. John Facer (re-elected).

Council—Messrs. C. Pack, W. F. Maynard, J. H. Ripley, B. Gorton, J. B. Tutt and E. S. Martin.

The retiring President then vacated the chair in favour of his successor and in extending a cordial welcome to Captain Rockett, he expressed the hope that the latter would have a very pleasant and successful year of office.

Treatment for Sick Animals of Poor Persons.—Discussion was next invited on the scheme of the R.C.V.S. and the R.S.P.C.A. for the provision of free veterinary treatment for sick animals of the poor, which had been informally considered at the previous meeting at Salisbury.

After an exhaustive discussion, the following resolution was passed by 12 votes to 3, for forwarding to the N.V.M.A.:

"That this meeting is in favour of co-operating with the R.S.P.C.A. in the general adoption of a ticket system in preference to the establishment of clinics, and would suggest the adoption of some such arrangement as that in force at the Bournemouth Branch, whereby the veterinary surgeon receives payment from the Society for his services."

Publicity.—A question by Captain Fox as to whether the meeting thought the N.V.M.A. were making as much use of publicity for the profession as they might do, led to an interesting discussion on the contribution of letters to the daily and other Press, and it was eventually decided on the proposition of Mr. Gorton, seconded by Mr. Caudwell, that the attention of the N.V.M.A. should be called to the opportunity which the present inquiry by the Pig Industrial Council into Diseases of the Pig offered for publicity work in this direction.

Next Meeting.—It was agreed that the next meeting should be held at Southampton, the President and Honorary Secretary to decide the date. Before the meeting dispersed the President proposed a hearty vote of thanks to the retiring President, Mr. J. B. Tutt, for his two years' service in that capacity.

J. Facer, *Hon. Secretary.*

The Zoological Society.

Centenary Celebrations.

The centenary of the Zoological Society was celebrated on Monday of last week at a special meeting held in the Great Hall of University College, and at a private dinner, which the Prince of Wales attended, at the Zoological Gardens.

The Duke of Bedford, as President, spoke of the Society's history at the centenary meeting, and Dr. P. Chalmers Mitchell, who has been the secretary of the Society for many years, gave an address on the scientific work the society has done. The French and Italian Ambassadors and representatives of the learned societies were present and congratulations were offered by delegates from kindred societies in Scotland, Ireland, the United States, France, Germany, and Holland.

The function was attended by about 1,000 Fellows. The list of Fellows now totals about 8,000, but the accommodation at University College made it necessary to set a limit to the gathering. The growth of the Society since the war has been remarkable. At the end of 1918 the Fellows numbered 4,800. The visitors that year made a total of 870,000; last year the figure rose to 2,220,000, and the income to £161,000, as compared with £96,000 in 1918.

The centenary is being marked by the publication of two important works associated with the Society. Dr. Chalmers Mitchell's illustrated "Centenary History of the Zoological Society" (25s. net) was published on Monday of last week, and a "List of the Vertebrated Animals exhibited in the Gardens of the Zoological Society of London, 1828-1928," in three volumes, has been prepared by Major Stanley Flower, Dr. Carmichael Low, Dr. Malcolm Smith, Mr. E. G. Boulenger, and Mr. J. R. Norman, and will shortly appear.

The celebration will be continued on June 20th with an evening garden party at the Zoological Gardens. This will provide Fellows and their guests with an opportunity of seeing the gardens after closing time. The houses will be illuminated so that bad weather would not necessarily mar the event.

NOTES AND NEWS.

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events.

Aug. 31st to Sept. 6th.—N.V.M.A. Congress at Ayr.

May 13th.—Meeting of the Editorial Committee, N.V.M.A., 10 Gray's Inn Square, W.C., 4-30 p.m.
„ 17th.—Meeting of the Midland Counties Division, N.V.M.A., at Nottingham.
„ 18th.—Entries due for D.V.S.M. Examination.
„ 23rd.—R.C.V.S. Annual Report and Voting Papers issued.
„ 30th.—R.C.V.S. Council Election—last day for receipt of Voting Papers.
June 6th.—R.C.V.S. Annual General Meeting.
„ 14th.—R.A.V.C. Annual Dinner.
„ 17th.—D.V.S.M. Examination commences in Edinburgh.
July 3rd.—R.C.V.S. Annual Dinner.
„ 4th.—R.C.V.S. Committee Meetings.
„ 5th.—R.C.V.S. Council Meeting.
„ 9th.—R.C.V.S. Written Examinations.
„ 11th.—R.C.V.S. Oral Examinations begin.

Death of Lady M'Fadyean.

We deeply regret to report the death of Lady M'Fadyean, which occurred at her home at Leatherhead on May 3rd. It will be remembered that Lady M'Fadyean underwent an operation for appendicitis a few months ago and that for some time it was doubtful if she would recover. We learn that, before her strength had been regained, she was attacked by influenza in the early part of this year. This, in her already weakened condition, was more than she could combat, and after many weeks of suffering the end came on Friday last. The funeral took place at Putney Vale Cemetery on Wednesday, the 8th instant.

Lady M'Fadyean was the eldest daughter of the late Professor Thomas Walley, of Edinburgh. The sympathies of the whole profession will go out without stint to Sir John M'Fadyean, who has thus lost the devoted companion of a life-time.

Royal Sanitary Institute Council.

In view of the discussion on this matter which took place at the last meeting of Council N.V.M.A., it will be noted with particular satisfaction, from the letter appearing in our correspondence columns this week, from Mr. J. R. Hayhurst, Recording Secretary of the Section of Veterinary Hygiene at the forthcoming Congress of the Institute, that a veterinary surgeon, in the person of Mr. Hayhurst, has now secured a seat on the Council of that body.

Royal Veterinary College Rebuilding Fund.

Up to date the National Dog Week Council has handed over £8,000 to the Royal Veterinary College Rebuilding Fund. Very largely responsible for this magnificent sum is the Tail Waggers' Club, in the formation and growth of which Capt. H. E. Hobbs has played so prominent a part. This growth is really remarkable, as the membership stands at 52,000 and new names are being enrolled at the rate of 600 a day. Recent recruits include Her Majesty the Queen of Norway and Her Royal Highness Princess Mary.

Commenced in September last as one phase of National Dog Week activity, the Tail-Waggers' Club has members now in 1,840 different cities, towns and villages in the British Isles, and in Australia, Belgium, Egypt, France, Germany, Holland, Italy, Jamaica, New Zealand, Persia, Poland, South Africa, Switzerland, Transjordania, and United States.

Army Veterinary Service.

Information Relative to Officers.

Major J. S. Nimmo, D.S.O., is still unfit for duty, and was granted two months sick leave by a Medical Board on the 8th ult.

Brevet Lieut.-Colonel H. E. Gibbs, D.S.O., resumed duty from sick leave on the 19th ult.

Major C. A. Murray is still incapacitated and unfit to resume duty.

The following officers are at present in this country on leave from India:—Lieut. Colonel G. P. Knott, O.B.E., Majors W. L. Sinton, W. P. S. Edwards, J. J. Mills, G. F. Steevenson, C. M. Stewart, and Major J. Smith (on sick leave). Lieutenant P. C. W. Creagh is also home on leave from Egypt.

The following officers are attending the course at the R.A.V. School, Aldershot, from 6th May to 3rd August:—Major R. H. Knowles, Major F. Hogg, Captain L. R. Swifte, and Captain E. O'Kelly.

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London Gazette—War Office—Territorial Army.

April 27th—Lt. A. M. Fulton resigns his commn. (April 27th).

May 3rd—Lt.-Col. P. J. Simpson, D.S.O., T.D., F.R.C.V.S., from Active List, to be Lt.-Col. (May 4).

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Regular Army Reserve of Officers.

May 7th—Lt.-Col. C. E. Steel, O.B.E., having attained the age limit of liability to recall, ceases to belong to the Res. of Off. (April 25th).

R.A.V.C. Point-to-Point Association.

The annual race for the Corps Challenge Cup took place at Liss on April 20th, in connection with the Hambledon Hunt Point-to-Point Steeplechases. The course was over the same country as in former years, and the long drought made the "going" exceptionally hard.

The following horses faced the starter: Major Bamford's "Whizz Bang" (Owner), Captain Walker's "Peter" (Owner), Major Knowles's "Sunny Girl" (Owner), Major Oxspring's "John Silver" (Mr. Ralston), and Major Bell's "Stuffy" (Major Hearne).

"Whizz Bang," last year's winner, was made a hot favourite and led off from "John Silver" and "Sunny Girl." After passing the Stands, "John Silver" went into the lead with "Sunny Girl" and "Whizz Bang" in close attendance. At the second brook "John Silver" refused and slipped, depositing Mr. Ralston in the water, and badly interfering with "Whizz Bang," who managed, however, to get clear of the melee. "Sunny Girl" then led from "Whizz Bang" and "Peter," but "Whizz Bang" again took the lead in the Park; he made a bad blunder at the first fence on the second circuit, but recovered and, stalling off a determined challenge from "Sunny Girl," won a fast race by 1½ lengths.

"Peter" jumped faultlessly, but lacked the pace of the other two, whilst "Stuffy" and "John Silver" fell.

A large number of officers and their friends availed themselves of the Corps Tea Tent on the course, and the Aldershot Army Veterinary Association was "at home" to the various messes in the Aldershot Command.

The Irradiation of Food.

The irradiation of food is now being recognised as a very valuable process in the dietary promotion of health, and further developments are taking place, particularly in Germany, in the invention of machinery for passing electric current through liquid and solid food. In this connection it is interesting to recall Professor Steenbock's experiment with live rats and goats. He chose rats suffering from rickets and some perfectly healthy milch goats. The latter he subjected to the U.V. rays and fed the rats on their milk, then he irradiated the milk of goats which had not been directly under the rays, and then he merely subjected the hay on which the goats were fed to radiation. In all three cases the rickets were cured. The Professor thus proved definitely that vitamin " D " is not exclusively a function of the U.V. rays acting on the live animal supplying the nourishment, but can be equally secured by radiating, directly or indirectly, the nourishment it supplied. Vitamin " D " was carried from the hay to the goat, from the goat to the milk, from the milk to the rat. Thus the sunshine came to the rat at fourth hand, and was artificial sunlight at that. Yet it did its curative work.—*The Actinic Practitioner and Electrotherapist.*

Congress of Military Medicine.

The inaugural meeting of the fifth International Congress of Military Medicine aud Pharmacy was opened on Monday by the Secretary of State for War, Sir Laming Worthington-Evans, in the Great Hall of the British Medical Association, Tavistock Square. The congress continued throughout the week.

The programme comprised a series of business meetings and discussions on such subjects as the rôle of the medical services in combined operations for the evacuation of sick and wounded by water and by air, tropical fevers, wounds of blood vessels, the physical and chemical analysis of the glass and rubber articles employed by the medical services, and the standard of dental and physical fitness in the Services.

The Royal College of Veterinary Surgeons was represented at the Congress by Major-General Sir John Moore, while Lt.-Col. J. W. Rainey represented the N.V.M.A.

CORRESPONDENCE.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

Women and the Profession.

To The Editor of The Veterinary Record.

Sir,—Fifty women, looking for fame and fortune, who may have been tempted, by recent propaganda, to embark upon a career connected with the physical welfare of chickens, rabbits. and fish, should be grateful to Sir John M'Fadyean for having, by his timely intervention at the last meeting of the Council of the Royal College of Veterinary Surgeons, saved them from painful disillusionment.

Extraordinary as it may seem to find Members of the Council opposing this resolution, it is more than amazing to consider the reasons given for their doing so.

Here is a statement made concerning the entrance of women into the profession which is either justifiable or not justifiable, and Sir John M'Fadyean, Professor O. Charnock Bradley, and those who supported them consider—as I venture to think the majority of the profession will consider—that such statement is not only unjustified, but grossly exaggerated.

Had the opponents of the resolution given out that they were of the opinion that such statements were justified, nothing more could have been said than that it was a matter on which opinions apparently differed.

But they almost ignore the truth or falsity of what is stated, and fall back upon a defence as amazing as it is illogical and inconsistent. In fact, this hardly describes the position that they took up.

Propaganda had been circulated that could have no other result than to induce women to flood the Colleges, and when a resolution is brought forward which has for its object the prevention of this, we find it opposed on the grounds that, if it is made public, it will be the means of preventing benefactors from helping the profession and the Colleges with donations and subscriptions! . . . That it will probably react on Sir John M'Fadyean himself; apparently for being opposed to feminine aspirations, though with the next breath he is told that by his action he will unwittingly be the greatest propagandist of all for the women's movement.

One would have thought that this result of the resolution would have been highly pleasing to the feminists, and afforded a solid ground on which to place their support, but before the sentence is finished we are told that for this very reason it should not be supported!

There may, or there may not, be two sides to this question, but there is no doubt on which side lie logic and lucidity of expression.

It will indeed be a sad day for the veterinary profession when it loses the wise and clear guidance of Sir John M'Fadyean. Yours faithfully, T. Lishman.

23 Queen's Gate Gardens,
S.W.7.
May 4th, 1929.

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To the Editor of The Veterinary Record.

Sir,—Having read Sir John M'Fadyean's speech at the Council Meeting with regard to " Women and the Profession," I should like to make a few remarks.

Why state that it will be difficult for a woman to make a living in the profession? This is a mere platitude, for it is difficult for a man or women to make a living in any profession.

If " this body has neither will nor power to discriminate between men and women students," why discriminate between men and women practitioners?

Cui bono all these arguments of the Councillors? Despite opposition, in many professions woman has considerably advanced her position and forced the world to recognise her right to take an equal place with man. When prejudice, the chief obstacle in her path of progress, has been rooted out, and more sympathy and encouragement are given, woman will hold her own as a practitioner in the veterinary profession in spite of her exclusion from the Military and Civil Services. Surely the Council should be the first to help her by giving her the same opportunities and bringing about good fellowship with the men. Even if the competition of women be keen, the standard of the profession should be higher.

Whether Professor Hobday in his enthusiasm has or has not painted too lurid a picture of the prospects must be a matter of opinion; at any rate, he has helped by trying to give them equal opportunities with men, in spite of the obvious prejudice of some members of the Council, as expressed at the meeting on April 12th.

Yours truly, Kathleen W. Shedlock.

Oak Cottage,
Esher.
May 6th, 1929.

Royal Sanitary Institute's Congress, Sheffield, July 13th—20th, 1929.

To the Editor of The Veterinary Record.

Sir,—For the information of your readers who are desirous of making arrangements to attend the Veterinary

Hygiene Section of the above Congress, I send you particulars of the programme, etc., as follows:—

SECTION "F"—VETERINARY HYGIENE.

To be held in the Town Hall.

President.

Professor G. H. Wooldridge, F.R.C.V.S., M.R.I.A., F.Z.S.

Vice-Presidents.

Lieut.-Col. J. Abson, D.S.O., F.R.C.V.S., Sheffield.

J. S. Lloyd, F.R.C.V.S., D.V.S.M. (Vict.), Sheffield.

J. A. Dixon, M.R.C.V.S., Veterinary Inspector, Leeds.

D. S. Rabagliati, B.Sc., O.B.E., F.R.C.V.S., Chief Veterinary Inspector, West Riding C.C.

J. Pollard, M.R.C.V.S., D.V.S.M., Veterinary Inspector, Halifax.

Captain W. Halstead, M.R.C.V.S., D.V.S.M. (Vict.), Health Department, Bradford.

F. L. Gooch, F.R.C.V.S., Stamford.

Professor J. T. Share-Jones, M.Sc., F.R.C.V.S., D.V.Sc., Liverpool.

Colonel J. W. Brittlebank, C.M.G., M.R.C.V.S., D.V.S.M., Chief Veterinary Inspector, Manchester.

E. J. Burndred, M.C., M.R.C.V.S., D.V.H., Veterinary Inspector, Blackburn.

W. J. B. DeVine, M.C., F.R.C.V.S., D.V.S.M., Chief Veterinary Inspector, Birmingham.

Local Secretaries.

W. Tweed, M.R.C.V.S.

T. C. Fletcher, M.R.C.V.S.

THURSDAY, JULY 18TH.

10 *a.m. to* 1 *p.m.*

1. Presidential Address.
2. A paper on "Meat Inspection," by P. F. Dolan, M.R.C.V.S., D.V.S.M., Chief Veterinary Inspector, Dublin.

   By courtesy of the Chairmen of the Health and Markets Committees of the Sheffield Corporation, a visit of inspection to the new abattoir and meat market (built at a cost of approximately £350,000), under the guidance of the Superintendent of the Abattoir, and a demonstration on diseased meat, by W. Tweed, M.R.C.V.S., have been arranged. The visit of inspection will be held from 2-30 p.m. to 5-30 p.m., and delegates will be able to attend the meat demonstration and inspection of the abattoir alternately, according to the accommodation available.

FRIDAY, JULY 19TH.

10 *a.m. to* 1 *p.m.*

1. Mr. Alderman Phené Neal, Corporation of the City of London, will give a brief explanation of the history and activities of the historic Fishmongers' Company.
2. A paper on "The Distinguishing Features of Food Fish and the Market Inspection of Fish," by C. Hattersley, Chief Inspector, Fishmongers' Company, London.

   Mr. Hattersley, who is an expert on fish inspection in this country, will demonstrate his lecture with a large number of the various species of fish.

I take this opportunity to inform members of the veterinary profession that I have recently been elected a member of the Council of the Royal Sanitary Institute, this being the first occasion that a member of our profession has received this honour.

I am, Sir, yours faithfully, JAMES R. HAYHURST,
Metropolitan Cattle Market, *Recording Secretary.*
Islington,
London, N.7.
May 3rd, 1929.

The Long-lying Post-parturient Cow.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—I notice that in your issue of April 27th, Mr. H. C. Watson, of Blairgowrie, writes and asks if any practitioner can supply him with a speedy and efficient cure for a cow which, after calving, lies down, ruminates, etc., but will not rise. Well, I possess a remedy which is pretty successful. It is a semi-Sealyham terrier, and he arouses these cows in some form; in fact, we used to carry him as part of the equipment.

Get a small terrier, educate him a little, and he will prove a better remedy than nux vomica, etc.

Yours faithfully, J. A. BARLOW, M.R.C.V.S.
c/o C. Pack, Esq., M.R.C.V.S.,
Lymington,
Hants.
May 1st, 1929.

"Veterinary Posology. Proprietary Medicines."

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—In your correspondence columns of April 27th, Dr. G. W. Clough, under the above heading, writes:—

> "The question of the prescribing of proprietary medicines of unknown composition also merits discussion, especially in view of the fact that *The Veterinary Record* has recently permitted its columns to be used by practitioners for testifying to the virtues of 'Odylen' as a remedy for certain diseases."

We agree with your correspondent that it is very desirable, in the interest of the veterinary profession, that an opportunity should be afforded for a discussion such as he indicates.

In instancing 'Odylen,' however, as a medicine of unknown composition, he has made a most unfortunate slip.

It is the policy of Bayer Products Ltd., the suppliers of 'Odylen,' to give detailed information in the literature they issue regarding the composition of all their veterinary and pharmaceutical preparations. For the benefit of Dr. Clough we repeat here the particulars relative to Odylen:—

> Odylen consists of dimethyl-diphenylene-sulphide 80 per cent., combined with 20 per cent. of ketones of high molecular weight.

The sale of 'Odylen,' and indeed of all the Bayer veterinary preparations, is confined to members of the profession, a policy which is, we believe, greatly appreciated by veterinary surgeons. It should not be a matter of surprise, therefore, to Dr. Clough that the official organ of the veterinary profession has devoted space on occasion to clinical reports on Odylen, particularly as this skin dressing has proved to be a most effective remedy for follicular mange—a disease hitherto generally regarded as incurable. Yours faithfully, BAYER PRODUCTS LTD.

St. Dunstan's Hill,
London, E.C.3.

The Physiology of Ruminant Digestion.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—Upon reading the published report of the discussion on Mr. John Hammond's paper in the *Veterinary Record* for 4th May, I realised that the report of Professor Greig's later remarks was obviously garbled and confused, and on enquiry I learn that owing to a misunderstanding he did not have an opportunity to correct the typescript proof.

As the report, is, in point of fact, a travesty of Professor Greig's speech, I hasten to make this explanation.

Yours faithfully, W. M. C. MILLER,
(*Hon. Secretary, Scottish Metropolitan Division*).
Animal Breeding Research Department,
University of Edinburgh.
May 6th, 1929.

The Editor acknowledges the receipt of the following:—

Report of a meeting of the Lancashire Division, N.V.M.A. from Mr. J. Spruell, Hon. Secretary.

Communications from Messrs. G. F. Boddie (Auchterarder), P. Crosfield (Reigate), Prof. R. G. Linton (Edinburgh), Mr. R. H. Smythe (Camborne), and Colonel G. K. Walker (Abingdon).